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GenCore version 4.5
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October 25, 2001, 11:20:17; Search time 135.34 Seconds (without alignments) 7.821 Million cell updates/sec OM protein - protein search, using sw model Run on:

US-09-630-333-3 38 1 XQWAVXHL 8 Title: Perfect score: Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

425026 seqs, 132305027 residues Searched:

425026 l number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database :

SPTREMBL_16:*

1: Sp_archea:*
2: sp_bacteria:*
3: sp_long1:*
4: Sp_luman:*
5: sp_linvertebrate:*
5: sp_mammal:*
5: sp_mammal:* sp_plant:*
sp_rodent:*
sp_rodent:*
sp_unclassified:*
sp_vertebrate:*
sp_virus:* 7: 5: 7: 7: 10:

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Description	Q9dsp4 saint croix	Q9m2h1 arabidopsis	Q9x5q8 streptomyce	Q21051 caenorhabdi	Q9dd12 brachydanio	Q9ilx2 pseudomonas	Q64981 artichoke l	Q90253 bombina ori	Q9rz51 deinococcus	Q9jm34 mus musculu	Q9uve4 zygosacchar	O85726 streptomyce	O9p6y1 neurospora	Q9vzf7 drosophila	Q9tjq5 prototheca	Q27106 trichomonas	Q9parl xylella fas	O65366 antirrhinum	Q9fuk9 pisum sativ
ID	Q9DSP4	Q9M2H1	Q9X5G8	021051	Q9DDL2	Q911X2	064981	090253	Q9RZ51	Q9JM34	Q9UVE4	085726	Q9P6Y1	Q9VZF7	Q9TJQ5	027106	Q9PAR1	065366	Q9FUK9
DB	14	10	7	ß	13	7	14	13	7	11	m	7	٣	Ŋ	æ	2	7	10	10
Query Match Length DB	517	174	328	353	806	95	86	119	183	216	232	236	256	266	273	309	325	357	359
Query Match	86.8	84.2	84.2	84.2	84.2	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6
Score	33	32	32	32	32	31	31	31	31	31	31	31	31	31	31	31	31	31	31
Result No.	П	7	m	4	S	9	7	œ	σ	10	11	12	13	14	12	16	17	18	19

0989v7 . ibid 091yh, a abi 091yh, a abi 091yh, a abi 015057 . wno sap 09ps30 .oncorh, 09k3v3 a reperon 09i8zy a reass; P4411: recton 09i8zy a reass; P4411: recton 09i8zy a reass; 09i2d methanoka a 09fi2d arabidops; 09fi2d arabidops; 00fi2d arabi	_
675 10 Q9S9V7 696 5 Q9VCU2 1273 4 Q9NU68 1275 4 015057 23 13 Q9PS30 132 2 Q9RS30 1157 13 Q91829 170 2 P74711 224 4 Q9U28 252 1 Q9F120 252 1 Q9F120 276 2 Q9LQ5 276 2 Q9LQ5 276 2 Q9LQ5 276 2 Q9LQ5 277 2 Q9F120 276 2 Q9LQ5 277 2 Q9F120 277 2 Q9F120 278 2	14 2 5
11111111111111111111111111111111111111	78.9 0 78.9 0 78.9
22222222222222222222222222222222222222	44 44 45

ALIGNMENTS

RESULT 1 Q9DSP4 PRELIMINARY; PRT; 517 AA. AC Q9DSP4 DT 01-MAR-2001 (TrEMBLrel. 16, Created) DT 01-MAR-2001 (TrEMBLrel. 16, Last sequence update) DT 01-MAR-2001 (TrEMBLrel. 16, Last annotation update) OX NOBL_TAXID=104581; RN 011 RP SEQUENCE FROM N.A. RA Attoul H., De Micco P., de Lamballerie X.; RN 5EQUENCE FROM N.A. RR Attoul H., De Micco P., de Lamballerie X.; RR Complete nucleotide sequence of Saint Croix river virus. RR SEQUENCE APR-1999) to the EMBL/GenBank/DDBJ databases. BR EMBL; AF145403; AAG34262.1; - SQ SEQUENCE 517 AA; 58030 MW; 0104A543FB2A1BIA CRC64; Best Local Similarity 71.4%; Pred. No. 51; Mismatches 5; Conservative 1; Mismatches 1; Indels DR EMBL; AF145403; AAG34262.1; - Best Local Similarity 71.4%; Pred. No. 51; Macches 5; Conservative 1; Mismatches 1; Indels DR EMBL; AF145403; AAG34262.1; - Best Local Similarity 71.4%; Pred. No. 51; Mismatches 1; Indels	
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Coulson A.,

SEQUENCE FROM N.A.

NCBI_TaxID=3702;

SEQUENCE FROM N.A.

Query Match Best Local Similarity Matches 5; Conserv

Q9X5G8

RESULT Q9X5G8

2 QWAVXHL 8

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Uren A.G., O'Rourke K., Aravind L., Pisabarro M.T., Seshagiri S., Koonin E.V., Dixit V.M.;
"Identification of Paracaspases and Metacaspases. Two Ancient Families of Caspase-like Proteins, One of which Plays a Key Role in MAI.T
Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea; Rhabditidae; Peloderinae; Caenorhabditis.
                                                                                                                  Wilson R., Ainscough R., Anderson K., Baynes C., Berks M.,
Bonfield J., Burton J., Connell M., Copsey T., Cooper J., Coulson A.
Craxton M., Dear S., Du Z., Durbin R., Favello A., Fulton L.,
Jones M., Green P., Hawkins T., Hillier L., Jier M., Johnston I.,
Jones M., Kershaw J., Kirsten J., Laister N., Latreille P.,
Lightning J., Lloyd C., Mcmurray A., Mortimore B., O'Callaghan M.,
Parsons J., Percy C., Rifken L., Roopra A., Saunders D., Shownkeen R.
Smaldon N., Smith A., Sonnhammer E., Staden R., Sulston J.,
Thierry-Mieg J., Thomas K., Vaudin M., Valdin M., Valdin M., Polidman P.,
T. Z. Z. Mb of contiguous nucleotide sequence from chromosome III of C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Brachydanio rerio (Zebrafish) (Zebra danio).
Eukaryota: Metazoa: Chordata: Craniata: Vertebrata; Euteleostomi:
Extinopterygii; Neopterygii; Teleostei; Euteleostei; Ostariophysi;
Cypriniformes; Cyprinidae; Rasborinae; Danio.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 353;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          to the EMBL/GenBank/DDBJ databases.
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Submitted (APR-1996) to the EMBL/GenBank/DDBJ databases
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40061 MW; 7961772B498E3052 CRC64;
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Mol. Cell 6:961-967(2000).
EMBL, AF316598; AAG38590.1; -.
SEQUENCE 806 AA; 90754 MW; 589A8BC2013B0A51 CRC64;
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Last annotation update)
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57.1%; Pred. No. 1.3e+02;
tive 2; Mismatches 1;
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                                                                                     STRAIN=BRISTOL N2;
MEDLINE-94150718; PubMed=7906398;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-MAR-2001 (TrEMBLrel. 16, 01-MAR-2001 (TrEMBLrel. 16, 01-MAR-2001 (TrEMBLrel. 16,
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SEQUENCE 353 AA; 4006
                                                                                                                                                                                                                                                                                                                                  Nature 368:32-38(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Waterston R.;
Submitted (APR-1996)
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Best Local Similarity
Matches 5; Conserv
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Best Local Similarity
Matches 4; Conserv
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                                                                    SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                  NCBI_TaxID=6239;
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201 EWAVNHL 207
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                                                                                                                                                                                                                                                                                                                                                                                                         Latreille P
                                                                                                                                                                                                                                                                                                                   elegans.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D'Angelo M., Vezzi A., Modesto D., Pigazzi M., Valle G., Mewes H.W.,
Lemcke K., Mayer K.F.X., Quetier F., Salanoubat M.;
Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Streptomyces clavuligerus.
Bacteria; Firmicutes; Actinobacteridae;
Actinomycetales; Streptomycineae; Streptomyces.
NCBI_TaxID=1901;
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0
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Pred. No. 27;
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                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1; Indels
                                                                                                                                      EU Arabidopsis sequencing project;
Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; AL137082; EMBSG183.1; -.
Hypothetical protein.
SEQUENCE 174 AA; 19189 MW; 4C27267C5E53B4DB CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4CBC78DAD5215034 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-NOV-1999 (TrEMBLrel. 12, Last sequence update) 01-MAR-2001 (TrEMBLrel. 16, Last annotation update) PUTATIVE DEACETYLCEPHALOSPORIN C ACETYLTRANSFERASE.
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Last annotation update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                          328 AA.
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Pred. No. 51;
                                                                                                                                                                                                                                                                                                   1; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRT;
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MEDLINE=99240369; PubMed=10223939;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              34642 MW;
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Transferase; Porin.
                                                                                                                                                                                                                                                               84.2%;
71.4%;
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01,
08,
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Best Local Similarity 83.30,
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                                                                                                                                                                                                                                                                                                 Conservative
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InterPro; IPR000073;

SEQUENCE

133 QWAVSH 138

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01-NOV-1996 (01-NOV-1996 (01-NOV-1998 (COSMID F59G1.

021051 1D 00 1D 00 DT 00 DD 00 GN FI

Q21051 Q21051;

RESULT

2 QWAVXH 7

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SEQUENCE FROM N.A.

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2 QWAVXHL 8

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Q911X2;

PA2143

0911X2

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Bombina orientalis (Oriental fire-bellied toad).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleos:
Amphibia; Batrachia; Anura; Archeobatrachia; Bombinatoridae; אייי ליחים.
                                                                                                                                                                                                                                                                                     Nagalla S.R., Barry B.J., Falick A.M., Gibson B.W., Taylor .. Dong J.Z., Spindel E.R.;

Dong J.Z., Spindel E.R.;

"There are three distinct forms of bombesin. Identification of [Leu13]bombesin, [Phe13]bombesin, and [Ser3,Arg10,Phe13]bombesin in the frog Bombina orientalis.";

J. Biol. Chem. 271:7731-7731(1996).

EMBL; U49450; AAC59784.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE-20036896; PubMed=10567266; White O., Eisen J.A., Heidelberg J.F., Hickey E.K., Peterson J.D., Dodson R.J., Haft D.H., Gwinn M.L., Nelson W.C., Richardson D.L., Moffat K.S., Qin H., Jiang L., Pamphile W., Crosby M., Shen M.. Wamathevan J.J., Lam P., McDonald L., Utterback T., Zalewski C., Makarova K.S., Aravind L., Daly M.J., Minton K.W., Fleischmann R.D., Ketchum K.A., Nelson K.E., Salzberg S., Smith H.O., Venter J.C..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bacteria; Thermus/Delnococcus group; Delnococcales; Delnococcas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Genome sequence of the radioresistant bacterium Deinococcus radiodurans R1.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 31; DB 13; Length 119; Pred. No. 29;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 81.6%; Score 31; DB 2; Length 183;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3C9BDF367441E99A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6EEAB3B483DC1BB7 CRC64;
                                                                                                (TrEMBLrel. 01, Last sequence update) (TrEMBLrel. 16, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-MAY-2000 (TrEMBLrel. 13, Created)
U-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-MAX-2001 (TrEMBLrel. 16, Last annotation update)
HYPOTHETICAL 20.5 KDA PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PHE-13 BOMBESIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         183 AA.
                                         119 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Mismatches
                                                                              Created)
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                                             PRT;
                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
MEDLINE=96205965; PubMed=8631814;
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SEQUENCE 183 AA; 20468 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE 119 AA; 13888 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                         Pfam; PF02044; Bombesin; 1.
PROSITE; PS00257; BOMBESIN; 1.
                                                                                                                                    PHE-13 BOMBESIN PREPROHORMONE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        81.6%;
                                                                          01-NOV-1996 (TrEMBLrel. 01,
01-NOV-1996 (TrEMBLrel. 01,
01-MAR-2001 (TrEMBLrel. 16,
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TIGR; DRA0103; -.
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nes 5; Conservative
                                           PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=1299;
                                                                                                                                                                                                              NCBI_TaxID=8346;
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51 QWAVGH 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 QWAVXH 7
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                                         Q90253
Q90253;
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Q9RZ51
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
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0
                                                                                                                                                                                                                                              Bacteria; Proteobacteria; gamma subdivision; Pseudomonadaceae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Grieco F.;
Submitted (MAY-1995) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Hypothetical protein.
SEQUENCE 95 AA; 10821 MW; 5723E5D0CD08841F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE 98 AA; 11570 MW; C4A6316685E31078 CRC64;
                                                                                                                            01-MAR-2001 (TrEMBLrel. 16, Created)
01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
HYPOTHETICAL PROTEIN PA2143.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-AUG-1998 (TrEMBLrel. 07, Last annotation update)
MRNA UNKNOWN FUNCTION (523BP) (FRAGMENT).
                                                                                            95 AA.
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                                                                                                                                                                                                                                                                                                                                           STRAIN=PAO1;
MEDLINE=20437337; PubMed=10984043;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  opportunistic pathogen.";
Nature 406:959-964(2000).
EMBL; AE004641; AAG05531.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; X87255; CAA60708.1; -.
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83.3%;
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Similarity 71.4%;
5; Conservative
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                                                                                            PRELIMINARY;
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Best Local Similarity
Matches 5; Conserv
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Best Local Similarity
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NCBI_TaxID=46076;
559 QWAIAHV 565
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                                                                                                                                                                                                                                                                                   NCBI_TaxID=287;
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                                                                                                                                                                                                                                                                    Pseudomonas.
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Schulte U., Aign V., Hoheisel J., Brandt P., Fartmann B., Holland R., Nyakatura G., Mewes H.W., Mannhaupt G.;
Submitted (APR-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                      Streptomyces clavuligerus.

Bacteria; Firmicutes; Actinobacteria; Actinobacteridae;
Actinomycetales; Streptomycineae; Streptomyces.
NCBI_TaxID=1901;
                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE-98361893; PubMed-9696752;
Alexander D.C., Jensen S.E.;
Alexander D.C., Jensen S.E.;
Alexander D.C., Jensen S.E.;
Alexander Streptonyces clavuligerus cephamycin C gene cluster and its regulation by the CcaR protein.";
D. Bacteriol. 180:34068-4079(1998).
EMBL; AF073896; AAA391.1;
EMBL; AF073896 AA; 27584 MW; FDIEFIB650AF8070 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Sordariales; Sordariaceae; Neurospora.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 236;
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Indels
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Submitted (APR-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; A135820; CAB88603.1; -.
InterPro; IRR001601; -.
SEQUENCE 256 AA, 27789 MW; 5251FBC58B6BDDD9 CRC64;
                                                                                                                                                                                       01-NOV-1998 (TrEMBLrel. 08, Created)
01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
01-NOV-1998 (TrEMBLrel. 08, Last annotation update)
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01-0cT-2000 (TrEMBLrel. 15, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
conserved HYPOTHETICAL PROTEIN.
 2;
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Pred. No. 59;
1; Mismatches
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64;
Mismatches
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Pred. No.
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                                                                                                                                                                                                                                           CEPHALOSPORIN HYDROXYLASE CMCI.
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ilarity 71.4%;
Conservative
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71.4%;
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5; Conservative
 Conservative
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Best Local Similarity
Matches 5; Conserv
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STRAIN-NRRL 3585;
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SEQUENCE FROM N.A.
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SEQUENCE FROM N.A.
                                                                    140 QWCVGHL 146
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                                                                                                                      RESULT 12
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                                                                                                                                                                                                         01-ocr-2000 (TrEMBLrel. 15, Created)
01-ocr-2000 (TrEMBLrel. 15, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
0LFACTORY RECEPTOR (FRAGMENT).
0LFACTORY RECEPTOR (FRAGMENT).
ELMAS musculus domesticus (western Buropean house mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                       MEDLINE-20183981; PubMed-10706615; Rouquier S., Blancher A., Glorgi D.; Rouquier S., Blancher A., Glorgi D.; "The olfactory receptor gene repertoire in primates and mouse: Evidence for reduction of the functional fraction in primates."; Proc. Natl. Acad. Sci. U.S.A. 97:2870-2874(2000). EMBL; AF073967; AAD43416.1; -...
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Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
Saccharomycetales; Saccharomycetaceae; Zygosaccharomyces.
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Pred. No. 58;
                   Indels
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SEQUENCE 232 AA; 26369 MW; 43CD832A6ED7F6B4 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        B2732A1870584D47 CRC64;
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01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
HYPOTHETICAL 26.4 KDA PROTEIN.
                   1;
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ed. No. 53;
Mismatches 1;
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PROSITE; PS00237; G_PROTEIN_RECEPTOR; UNKNOWN_1
                                                                                                                                                                          216 AA
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 ed. No. 45;
Mismatches
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Pred. No.
   Pred. No.
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24097 MW;
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InterPro; IPR001601; -.
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71.4%;
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71.48;
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216 AA;
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Best Local Similarity
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49 RWAVFHL 55
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                                                  OWAVXHL 8
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STRAIN—BERKELEY

RA Amanatides P.G., Scherer S.E., Li P.W., Hoskins R.A., Galle R.F.,
Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
RA Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
RA Adams M.D., Celniker S.E., Richards S., Ashburner M., Henderson S.N.,
RA Sutron G.G., Wortman J.R., Yandell M.D., Zhang O., Chen L.X.,
Bardon R.C., Rogers Y.-H.C., Blazej R.G., Change M., Pfeiffer B.D.,
RA Ballew R.M., Doyle C., Baxter E.G., Helt G., Nolson C.R., Miklos G.L.G.,
RA Ballew R.M., Basu A., Baxendala J., Baytektarolu L., Beasley E.M.,
Besson K.Y., Benca P.V., Barman B.P., Bhandari D., Bollahakov S.,
RA Burtis K.C., Busam D.A., Buller H., Caddeu E., Center A., Chadra I.,
RA Burtis K.C., Busam D.A., Dahlke C., Davemport L.B., Davies P.,
RA Burtis K.C., Busam D.A., Dahlke C., Davemport L.B., Davies P.,
RA Dodson K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C.,
Burtis K.C., Gabriellan A.E., Garg N.S., Galbart W.M., Glasser K.,
A Dodson K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C.,
RA Burtis N.L., Harvey D., Heiman T.J., Herrandez J.R., Houck J.,
RA Harris N.L., Harvey D., Heiman T.J., Wei M.-H., Ibegwam C.,
A Jalali M., Kalush F., Karpen G.H., Ke Z., Kenipa D., Lai S.,
A Hostin D., Houston K.A., Howland T.J., Wei M.-H., Ibegwam C.,
A Harris N.L., Martei B., McIntosh T.C., Morris J., Woshrefi A.,
Ra Liu X., Mattei B., McIntosh T.C., Morris J., Woshrefi A.,
Reinert K., Remington K.A., Howly B., McDecod M.P., Morphy B., Markon D. M.,
Raber B.C., Siden-Klamos I., Simpson M., Strong R., Paciele J., Nasaerbach J.,
Raber E., Spanding A.C., Standers R., Venter E., Wang X.,
Walliams S.M., Woodage T., Worley K.C., Wu D., Yu Singh X.,
Raber B.C., Siden-Klamos I., Simpson M., Strong S., Yao O. A.,
Wallang S.W., Woodage T., Worley K.C., Wu D., Yu Singh S.,
Raber S., Labor B., Worley K.C., Wu D., Yu Singh S.,
Raber S., Bord B.W., Worley B.W., Rohle B.C., Shan M., Zheng K., Wassarman D.A., Weinstock M., Wassarman D.A., Weinstock M.,
Rabenc B.C., Shan K.A., Worley B.W., Korley B. S.,
Rabe
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-!- SIMILARITY: TO IMMUNOGLOBULIN AND MAJOR HISTOCOMPATIBILITY COMPLEX
                                                                                                                                                                                               Drosophila melanogaster (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidea; Drosophila.
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266 AA; 29823 MW; FC97694BDFF80F33 CRC64;
                                                                                   01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
                                                266 AA.
                                                PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HSSP; P56276; ITLK.
FlyBase; FBgn0001257; ImpL2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; AE003480; AAF47866.2;
                                              PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IPR003006;
                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                             IMPL2 OR CG15009.
                                                                                                                                                                                                                                                                                          NCBI_TaxID=7227;
                                                                                                                                                        IMPL2 PROTEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pfam; PF00047
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
                                                                   09VZF7;
                                           Q9VZF7
RESULT 14
                       Q9V2F7
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Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Kinauf U., Hachtel W.; "A 22 kb fragment of the 53 kb plastid genome of the colourles. ilga Prototheka wickerhamil containing atp-, rpl-,rps-, rrn-, and 'rr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Chloroplast.
Eukaryota; Viridiplantae; Chlorophyta; Trebouxiophyceae; Chlo.
Chlorellaceae; Prototheca.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   81.6%; Score 31; DB 8; Length 273; 71.4%; Pred. No. 68;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     genes.";
Submitted (AUG-1999) to the EMBL/GenBank/DDBJ databases.
EMBL, AJJ45645; CAB53116.1; -.
HSSP; P04257; 1RL2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro; IPR002222; -.
Pfam; PF00181; Ribosomal_L2; 1.
Probom; P0001012; -; 1.
PROSITE; PS00178; AA_TRNA_LIGASE_I; UNKNOWN_I.
PROSITE; PS00467; RIBOSOMAL_L2; 1.
Ribosomal protein; Chloroplast.
SEQUENCE 273 AA; 29952 WW; EE05656E77830BD4 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                   Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Mismatches
                                                                                                                                                                                                                                                                                                                                                             Created)
                                                                                                                                                                                                                                                                              PRT;
                                                                                                                                                                                                                                                                                                                                                                                          01-MAY-2000 (TrEMBLrel. 13, 01-MAR-2001 (TrEMBLrel. 16, 50S RIBOSOMAL PROTEIN L2.
                                                                                                                                                                                                                                                                                                                                                         01-MAY-2000 (TrEMBLrel. 13,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity 71.4
Matches 5; Conservative
                                                                                                                                                                                                                                                                              PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           InterPro; IPR001412; -. InterPro; IPR002171; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Prototheca wickerhamii.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=3111;
                                                 90 QWVVGHL 96
2 QWAVXHL 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN=263-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                        Q9TJQ5;
                                                                                                                                                                                           RESULT 15
Q9TJQ5
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Search completed: October 25, 2001, 11:27:41 Job time: 444 sec

Gaps

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Indels

81.6%; Score 31; DB 5; Length 266; ilarity 71.4%; Pred. No. 66; Conservative 0; Mismatches 2; Indels

Query Match Best Local Similarity Matches 5; Conserv

0; Mismatches

170 QWATLHL 176

2 OWAVXHL 8

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GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
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- protein search, using sw model OM protein

Run on:

Search time 76.25 Seconds (without alignments) 7.992 Million cell updates/sec 2001, 11:19:47 ; October 25,

US-09-630-333-3 Perfect score: Title:

1 XQWAVXHL 8 Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

219241 seqs, 76174552 residues Searched:

al number of hits satisfying chosen parameters:

219241

seq length: 0 seq length: 2000000000 Minimum DB Maximum DB Maximum

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database :

PIR_68:*
1: pirl:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

		æ			SUMMARIES	
Result No.	Score	Query Match	Query Match Length	DB	ID	Description
·	35	92.1	14	-	BSTD	bombesin - fire-be
7	35	92.1	107		BSTDY	DI
m	35	92.1	119	7	A39261	
4	32		174	7	T45665	hypothetical prote
. 5	32	84.2	353	7	T34312	
9	31	81.6	σ		S07204	Æ,
7	31	81.6	13		A60409	bombesin-like pept
8	31		82		B28945	ranatensin precurs
6	31	81.6	95		H83378	hypothetical prote
10	31		183		A75605	
11	31		232		S32963	hypothetical prote
12	31		256		T48787	
13	31	81.6	309		S41427	cysteine proteinas
14	31		325		F82558	lipopolysaccharide
15	31		357		T17027	MYB-related transc
16	31		360		A25732	inhibin alpha chai
17	31	81.6	364		WFPGA	inhibin alpha chai
18	31	81.6	366		JC1106	inhibin alpha chai
19	31	81.6	366		A40056	inhibin alpha chai
20	31	81.6	703		T48559	probable receptor-
21	31	81.6	769		S36657	SWI6 protein - yea
22	30	78.9	10		PQ0177	neuromedin C - lau
23	30	78.9	10		A60647	neuromedin C - bov
24	30	78.9	25		806263	gastrin-releasing
25	30	٠	27	П	RHPGA	qastrin-releasing
56	30	78.9	27	-	RHGPGA	gastrin-releasing
27	30	٠	27	1	RHCHA	gastrin-releasing
28	30		120	7	A47201	bombesinlike pepti
29	30	78.9	134	7	147010	gastrin-releasing

gastrin r leasing	gastrin releasing	gastrin-releasing	gastrin-releasing	hypothetical prote	MADS box protein	conserved hypothet	hypothetical prote	conserved hypothet	conserved hypothet	inhibin alpha chai	hypothetical prote	qlucan endo-1,3-be	GTPase-ac ivating	Cytochrome P450 (E	hypothetical prote
A26182	A40922	B26182	A42437	876918	T07902	A69060	B82631	H82541	H83298	A24248	T43049	T50645	S56816	T10896	876521
~	~	П	7	~	7	~	7	7	7	-	7	7	~	~	П
138	147	148	155	170	250	252	283	311	318	366	375	453	458	502	691
78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9
30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

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RESULT
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Dombesin - fire-bellied toad
C; Species: Bombina bombina (fire-bellied toad)
C; Species: Bombina bombina (fire-bellied toad)
C; Accession: 13-Jul-1981 #sequence_revision 13-Jul-1981 #text_change 20-Mar-1998
C; Accession: A.) Erspamer, V.; Bucci, M.
R; Anastasi, A.; Erspamer, V.; Bucci, M.
Arch. Biochem. Biophys. 148, 443-446, 1972
A; Title: Isolation and amino acid sequences of alytesin and bombesin, two unal. A; Reference number: A01564; MUID:72163516
A; Accession: A01564
A; Molecule type: protein
A; Residues: 1-14 <ANA>
C; Superfamily: gastrin-releasing peptide
C; Superfamily: gastrin-releasing peptide
C; Keywords: amidated carboxyl end; cutaneous gland; hormone; neuropeptide; py://wodified site: pyrrolidone carboxylic acid (Gln) #status experimental
F; 14/Modified site: amidated carboxyl end (Met) #status experimental

Ξ

aps . ; 1; Length 14; 1; Indels Score 35; DB 1; Pred. No. 0.33; 0; Mismatches 92.1%; 85.7%; Query Match 92.1 Best Local Similarity 85.7 Matches 6; Conservative

7 QWAVGHL 13 2 QWAVXHL 8 δλ g

RESULT

bombesin precursor - yellow-bellied toad

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<u>.</u> 2

C;Species: Bombina variegata (yellow-bellied toad)
C;Species: Boncollow-Boll

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84.2%;
71.4%;
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Best Local Similarity
Matches 5; Conserv
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Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                A; Molecule type: DNA A; Residues: 1-353 <LAT>
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201 EWAVNHL 207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Gene: CESP: F59G1.4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C; Accession: S07204
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                                                                                                                                                                 C; Accession: T34312
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                                                                                                                                                                                              R; Latreille,
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   RESULT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C.Species: Bombina orientalis

te: 18-Oct-1991 #sequence_revision 18-Oct-1991 #text_change 24-Sep-1999

te: 18-Oct-1991 #sequence_revision 18-Oct-1991 #text_change 24-Sep-1999

KrSpindel, E.R.; Gibson, B.W.; Reeve Jr., J.R.; Kelly, M.

Froc. Natl. Acad. Sci. U.S.A. 87, 9813-9817, 1990

A.Title: Cloning of cDNAs encoding amphibian bombesin: evidence for the relationship bet A.Reference number: A39261; MUID:91088602

A.Accession: A39561

A.Accessio
F;42-55/Product: bombesin #status experimental <MAT>
F;56-107/Domain: carboxyl-terminal propeptide #status predicted <CPT>
F;42/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status experimen F;55/Modified site: amidated carboxyl end (Met) (amide in mature form from following gly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cession: T45665 A.; Modesto, D.; Pigazzi, M.; Valle, G.; Mewes, H.W.; Lemcke, submitted to the Protein Sequence Database, January 2000 A. Reference number: 223011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ó
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Cate: 04-Feb-2000 #sequence_revision 04-Feb-2000 #text_change 04-Feb-2000
cession: T45665
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Pred. No. 2.5;
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Pred. No. 2.8;
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A;Molecule type: DNA
A;Molecule type: DNA
A;Residues: 1-174 CDAN>
A;Cross-references: EMBL:AL137082
A;Experimental source: cultivar Columbia; BAC clone F14P22
C;Genetics:
A;Map position: 3
A;Introns: 90/1; 126/3; 166/2
A;Note: F14P22.40
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                                                                                                                                                                                                                                                        0; Mismatches
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85.7%;
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85.7%;
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ilarity 71.4%;
Conservative
                                                                                                                                                                                           Query Match 92.1
Best Local Similarity 85.7
Matches 6; Conservative
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Matches 5; Conserv
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51 QWAVGHL 57
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A;Reference number: A60409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
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A;Experimental source: strain Bristol N2; clone F59G1
hypothetical protein F59G1.4 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 29-Oct-1999 #sequence_revision 29-Oct-1999 #text_change 21-Jan-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         bombesin-like peptide L - frog (Pseudophryne guentheri)
C;Species: Pseudophryne guentheri
C;Date: 30-Jan-1993 #sequence_revision 30-Jan-1993 #text_change 18-Aug-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C;Species: Litoria aurea
C;Date: 12-Feb-1993 #sequence_revision 12-Mar-1993 #text_change 18-Aug-2000
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Kreywords: amidated carboxyl end; neuropeptide; pyroglutamic acid
F:1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
F:9/Modified site: amidated carboxyl end (Met) #status experimental
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               R; Anastasi, A.; Erspamer, V.; Endean, R.
Experientia 31, 510-511, 1975
A; Title: Aminoacid composition and sequence of litorin, a bombesin-like
A; Reference number: S07204; MUID:75187011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Map position: 2
A;Introns: 23/1; 47/2; 83/3; 114/3; 151/1; 187/2; 229/3; 257/3; 316
C;Superfamily: Caenorhabditis elegans hypothetical protein F59G1.4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 353;
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                                                                                                                                                                  submitted to the EMBL Data Library, April 1996
A; Description: The sequence of C. elegans cosmid F59Gl.
A; Reference number: 221504
A; Accession: T34312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    81.6%; Score 31; DB 2; 1
83.3%; Pred. No. 2.2e+05;
tive 0; Mismatches 1;
                                                                                                                                                                                                                                                                                                               A;Status: preliminary; translated from GB/EMBL/DDBJ
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Pred. No. 33;
1; Mismatches
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1-11:51: BR2
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I.; Zalewsk.
                                               hypothetical protein - Deinococcus radiodurans (strain R1)
C;Species: Deinococcus radiodurans
C;Saccession: A75605
R;White, O.; Eisen, J.A.; Heidelberg, J.F.; Hickey, E.K.; Petersa... .D.; Dou:..
M.; Shen, M.; Vamathevan, J.J.; Lam, P.; McDonald, L.; Ulterback, F.; Z.Jewsk
S.; Smith, H.O.; Venter, J.C.; Fraser, C.M.
Science 286, 1571-1577, 1999
A;Title: Genome sequence of the radioresistant bacterium Deinococcus radiodurant
A;Reference number: A75250; MUID:20036896
A;Reference and A75605
A;Status: preliminary
A;Molecule type: DNA
A;Molecule type: DNA
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A; Residues: 1-232 <DOD>
A; Cross-references: EMBL:X70529; NID:g1907246; PIDN:CAA49926.1; F1 .4296560
B; Aigle, M.; Baclet, M.C.; Barthe, C.; Bitcau, N.; Crouzet, M.; Dolynon, F. submitted to the Protein Sequence Database, August 1994
A; Reference number: 845940
A; Accession: 846142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 hypothetical protein YBR261c - yeast (Saccharomyces cerevisiae)
N;Alternate names: hypothetical protein YBR1729
C;Species: Saccharomyces cerevisian
C;Species: Saccharomyces cerevisian
C;Accession: S32963; S46142
R;Doignon, F; Biteau, N.; Crouzet, M.; Aigle, M.
R;Doignon, F; Biteau, N.; Crouzet, M.; Aigle, M.
R;Doignon, F; Biteau, N.; Crouzet, M.; Aigle, M.
A;Title: The complete sequence of a 19,482 bp segment located on in right may at the complete sequence of a 19,482 by segment located on in right may accession: S32963
A;Accession: S32963
A;Status: translation not shown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Cross-references: EMBL: X36130; NID: 9536688; PIDN: CAA85224.1; PID: 4'366F
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                                                                                                                                                                                                                                                                                                                                                                   A; Residues: 1-183 <WHI>> A; Cross-references: GB:AE001862; GB:AE001825; NID:g6460468; PIDN:, A; Experimental source: strain R1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Map position: 2
C;Superfamily: Deinococcus radiodurans hypothetical protein DRA01
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C;Superfamily: Neurospora crassa hypothetical protein 13E11.350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 232;
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Pred. No. 28;
1; Mismatches
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Pred. No. 35;
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71.4%;
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Best Local Similarity /1...
5, Conservative
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Best Local Similarity
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49 RWAVFHL 55
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Lover, C.K.; Pham, X.O.; Erwin, A.L.; Mizoguchi, S.D.; Warrener, P.; Hickey, M.J.; Br tover, C.K.; Pham, X.O.; Erwin, A.L.; Mizoguchi, S.D.; Warrener, P.; Hickey, M.J.; Br tover, C.K.; Pham, X.O.; Erwin, A.L.; Mizoguchi, S.D.; Warrener, P.; Hickey, M.J.; Br tover, C.K.; Vas, Olson, M.V.

Nature 406, 959-964, 2000

A.Title: Complete genome sequence of Pseudomonas aeruginosa PA01, an opportunistic pathon, R. Reference number: A82950; MUID:20437337

A.Reference number: A82950; MUID:20437337

A.Reference number: B0378

A.Residues: 1-95 <STO>
A.Cross-references: GB:AE004641; GB:AE004091; NID:g9948150; PIDN:AAG05531.1; GSPDB:GN001
C. Genetics: A.Reperimental source: strain PA01
C. Genetics: A. Gene: PA2143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        J. Biol. Chem. 263, 13317-13323, 1988

J. Biol. Chem. 263, 13317-13323, 1988

A; Title: Molecular cloning of cDNAs encoding the human bombesin-like peptide neuromedin A; Reference number: A92667; MUID:88330837

A; Molecule type: mRNA

A; Residues: 1-82 < KRA>

A; Cross-references: GB:M21552; GB:J03948; NID:g213693; PIDN:AAA49533.1; PID:g213694

C; Superfamily: ranatensin
C; Keywords: neuropeptide
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C; Superfamily: unassigned animal peptides C; Keywords: amidated carboxyl end; hormone; neuropeptide; pyroglutamic acid F:1/Modified site: pyrrolidone carboxylic acid (Gln) *status experimental F:13/Modified site: amidated carboxyl end (Met) *status experimental
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C;Date: 15-Sep-2000 #sequence_revision 15-Sep-2000 #text_change 31-Dec-2000
C;Accession: H83378
                                                                                                                                                                                                                                                                                                                                                                                                                                                    C:Species: Rana pipiens (northern leopard frog)
C-Date: 30-Jun-1989 #sequence_revision 30-Jun-1989 #text_change 24-Sep-1999
cession: B28945
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Pred. No. 15;
0; Mismatches 2; Indels
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                                                                                                                                                     2; Length 13
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                                                                                                                                                     81.6%; Score 31; DB
83.3%; Pred. No. 2;
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    northern leopard frog

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Pred. No.
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83.3%;
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llarity 71.4%;
Conservative
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51 QWAVGH 56
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A; Residues: 17-25 csin>
A; Residues: 17-25 csin>
A; Residues: 17-25 csin>
A; Residues: 17-25 csin>
A; Cross references: GB: BED04052; GB: AED03849; NID: 99107617; PIDN: AAF85233.1; GS.
A; Experimental source: strain 9a5c
R; Simpson, A.J.G.; Reinach, F.C.; Arruda, P.; Abreu, F.A.; Acencio, M.; Alvarer
Briones, M.R.S.; Bueno, M.R.P.; Camargo, A.A.; Camargo, L.E.A.; Carraro, D.M.:
as-Neto, E.; Docena, C.; El-Dorry, H.; Facincani, A.P.; Ferreira, A.J.S.
submitted to GenBank, June 2000
A; Authors: Ferreira, V.C.A.; Ferro, J.A.; Fraga, J.S.; Franca, S.C.; Franco, M.;
J.; Junqueira, M.L.; Romper, E.L.; Kitajima, J.D.; Kitajer, J.E.; Kuramae, E.i.;
J.D.; Junqueira, M.B.N.; Madeira, H.M.F.; Marino, C.L.; Marques, M.V.; Mathors: Marthors: Martins, E.M.F.; Matsukuma, A.Y.; Menck, C.F.M.; Miracca, E.C.; Miyak
A; Authors: Martins, E.M.F.; Matsukuma, A.Y.; Menck, C.F.M.; Miracca, E.C.; Miyak
Kodrigues, V.; Rosa, A.J. de M.; de Rosa Jr., V.E.; de Sa, R.G.; Santelli, R.V.; Salwa
A; Authors: da Silva, A.C.R.; da Silva, F.R.; da Silva, A.M.; Silva Jr., W.A.; da Silva
A; Reference number: A59328
A; Contents: annotation
A; Reference versas.
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C.Superfamily: unassigned myb DNA-binding repeat proteins; myb DNA-binding repeat
C.Keywords: transcription factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .
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A.Title: The PHAWTASTICA gene encodes a MYB transcription factor involved in garge-rence number: 218662; MUID:98292176
A.Reference number: 218662; MUID:98292176
A.Accession: T17027
A.Status: preliminary; translated from GB/EMBL/DDBJ
A.Molecule type: mRNA
A.Molecule type: mRNA
A.Residues: 1-357 - WAID
A.Residues: 1-357 - WAID
A.Residues: 1-357 - WAID
A.Residues: 1-357 - WAID
A.Residues: 1-367 - WAID
A.Residues: 1-
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C;Species: Antirrhinum majus (garden snapdragon)
C;Date: 15-Oct_1999 #sequence_revision 15-Oct-1999 #text_change 21-Jul-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ;
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Pred. No. 49;
0; Mismatches
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Pred. No. 54;
0; Mismatches
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49;
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ilarity 71.4%;
Conservative (
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Best Local Similarity 71.4%;
Matches 5; Conservative
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Matches 5; Conserv
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C;Species: Neurospora crassa
C;Date: 05-May-2000 #sequence_revision 05-May-2000 #text_change 28-Jul-2000
C;Date: 05-May-2000 #sequence_revision 05-May-2000 #text_change 28-Jul-2000
C;Date: 05-May-2000 #sequence_revision 05-May-2000 #text_change 28-Jul-2000
R;Schulte, U.; Aign, V.; Hoheisel, J.; Brandt, P.; Fartmann, B.; Holland, R.; Nyakatura, submitted to the Protein Sequence Database, April 2000
A;Reference number: 224541
A;Accession: T48787
A;Accession: T48787
A;Accession: T48787
A;Residues: DAA
A;Residues: 1-256 <SCH>A;Residues: 1-256 <SCH>A;Cross-references: EMBL:AL353820; GSPDB:GN00112; NCSP:13E11.350
A;Experimental source: cosmid contig 13E11; strain 74
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A;Residues: 1.309 <MAL>
A;Cross-references: EMBL:X77218; NID:g452291; PIDN:CAA54435.1; PID:g452292
A;Experimental source: G3
C;Genetics:
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F;1-89/Domain: signal sequence #status predicted <SIG>
F-309/Product: cysteine proteinase CPI #status predicted <MAT>
4,254,274/Active site: Cys, His, Asn #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C;Superfamily: Neurospora crassa hypothetical protein 13E11.350
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83.3%; Pred. No. 47;
iive 0; Mismatches 1; Indels
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Score 31; DB 2; Pred. No. 39; 0; Mismatches

ery Match 81.6%; St Local Similarity 71.4%; tches 5; Conservative

Matches

162 QWCVGHL 168

2 QWAVXHL 8

õ qq

A; Gene: NCSP:13E11.350

A; Map position:

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Search completed: October 25, 2001, 11:25:19 Job time: 332 sec
330 QWAAKHL 336
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FREADLY.
FRE

Query Match
Best Local Similarity 83.3.
Best Local Similarity 5.5.

126 QWAVKH 131

g

RESULT 14

2 QWAVXH 7

C; Superfamily: papain

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GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
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OM protein - protein search, using sw model

October 25, 2001, 11:20:32; Search time 40.36 Seconds (without alignments) 6.790 Million cell updates/sec Run on:

US-09-630-333-3 38 1 XQWAVXHL 8 Title: Perfect score: Sequence:

Scoring table:

BLOSUM62 Gapop 10.0 , Gapext 0.5

93435 seqs, 34255486 residues Searched:

l number of hits satisfying chosen parameters:

93435

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 08
Maximum Match 1008
Listing first 45 summaries

SwissProt_39:* Database : Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

		ď			SUMMARIES		
Result		Query					
No.	Score	Match	Length	DB	ΩI	Description	u
1	35	92.1	14	-	ALYT_ALYOB	44	alytes obst
7	35	92.1	107	Н	BOMB_BOMVA	P01296 bom	bombina var
3	32	92.1	119	Н	BOMB_BOMOR		bombina ori
4	31	81.6	6	_	LITO_LITAU		litoria aur
Ŋ	31	81.6	13	-	BOML_PSEGU		pseudophryn
9	31	81.6	82	7	RANA_RANPI		rana pipien
7	31	81.6	232	1	YB9H_YEAST		saccharomyc
8	31	81.6	263	Н	IML2_DROME		drosophila
6	31	81.6	265	Н	IHA_SHEEP		s aries
10	31	81.6	360	П	IHA_BOVIN	P07994 bos	taurus
]]	31	81.6	364	-	IHA_PIG	P04087 sus	scrofa
12	31	81.6	366	Н	IHA_MOUSE		mus musculu
13	31	81.6	366		IHA_RAT		rattus norv
14	31	81.6	769	Н	SWI6_KLULA		kluyveromyc
15	30	78.9	10	~	GRP_RANRI		rana ridibu
16	30	78.9	25	Н	GRP_SCYCA		scyliorhinu
17	30	78.9	27	Ч	GRP_CANFA		canis famil
18	30	78.9	27	П	GRP_CHICK		gallus gall
19	30	78.9	27	Н	GRP_PIG		sus scrofa
20	30	78.9	28	-	GRP_ALLMI		alligator m
21	30	78.9	120		NEUB_XENLA		xenopus lae
22	30	78.9	134	Н	GRP_SHEEP		ovis aries
23	30	78.9	147	٦	GRP_RAT		rattus norv
24	30	78.9	148	٦	GRP_HUMAN		homo sapien
25	30	78.9	155	7	GRP_BOMOR	_	bombina ori
26	30	78.9	250	П	AGL8_SOLCO		solanum com
27	30	78.9	361	П	IHA_TRIVU		trichosurus
28	30	78.9	366	П	IHA_HUMAN		homo sapien
29	30	78.9	367	Н	IHA_HORSE	-	equus cabal
30	30	ထ	458	Н	GYP6_YEAST	•	saccharomyc
31	29	9	219	~	YDRE_SCHPO		schizosacch
32	29	76.3	227	, -4 .	PGSA_MYCPN	75520	mycoplasma
33 33	53	9	301	Н	GCVA_HAEIN	P45099 hae	haemophilus

[1] SEQUENCE FROM N.A. SPECIES=B.variegata; TISSUE=Skin; MEDLINE=90242964; PubMed=2335218;

052814 rhizobium j P0537. v.r.pus j P29940 j dome P52672 throcapsa i P57501 buchnera ap P36184 entamoebu h P54849 bovine poly P51093 v.r.is vinif P09273 varicellar z P5102 petunia hyb P49264 thlaspi arv Q16678 hom. sapien	AA.	. created) , Last sequence update) , Last annotation update) (Midwife toad). Chordata; Craniata; Vertebrata; Euteleost Anura; Archeobatrachia; Discoglossidae; At	d-6141890; s.f., Mazzanti G., Endean R.; skins of one hundred amphibian species from Guinea."; 77C:99-108(1984). TO THE BOMBESIN/NEUROMEDIN B/RANATEN:	PYRROLIDONE CARBOXYLIC ACID. AMIDATION. D3C4E4D3AF129666 CRC64;	DB 1; Length 14; 0.17; thes 1; Indels aps	7 AA. ate) pdate) , and Vertebrata; Euteleost; chia; Bombinatoridae; . ubina.
AAPM_RHILV ACHG_XENLA YCB7_PSEDE CYSH_THIRO CYSH_BUCAI ACP1_ENTHI COA2_POVBO LLOX_VITVI UL43_YZVD LDOX_PETHY C7B1_THLAR	ALIGNMENTS PRT; 14	sequence update) annotation updat ie toad). a; Craniata; Ver Archeobatrachia	41890; Mazzanti G., ns of one hund nea."; :99-108(1984). THE BOMBESIN/P	-	Score 35; DB; Pred. No. 0.17	PRT; 10) quence upd notation u lied toad) toad); Craniata;
76.3 384 1 73.7 289 1 73.7 289 1 73.7 289 1 73.7 288 1 73.7 368 1 73.7 366 1 73.7 496 1 73.7 496 1 73.7 496 1	FANDA!	(Rel. 28, Last sequent) (Rel. 37, Last sequent) (Rel. 37, Last ann Retazoa; Chordata; chartanhia; Anura; Art	SEQUENCE. MEDLINE=84131098; PubMed=6141890; Erspamer V., Erspamer G.F., Mazza "Active peptides in the skins of Australia and Papua New Guinea."; Comp. Biochem. Physiol. 77C:99-10 -!-SIMILARITY: BELONGS TO THE BO PAMILY	sin; 1 MBESIN dation 1 14 554 MW	92.1% arity 85.7% Onservative 8	T 2 BOMD BOMD BOMD BOMD BOMD BOMD BOMD BOMD
28 2 2 2 8 8 8 8 9 8 9 9 9 9 9 9 9 9 9 9	1 1 -ALYOB ALYT_ALYOB POB944; POB9444;	9994 9994 17 TD	SEQUENCE. MEDLINE-84131098; Pubmec Brspamer V., Erspamer G Active peptides in the Australia and Papua New Comp. Blochem. Physiol!- SIMILARITY: BELONGS. FAMITY:	InterPro; IPR000874; Pfam: PF02044; Bombe PR0SITE; PS00257; BO Bombesin family; Ami MOD_RES 14 SEQUENCE 14 AA; 1	Query Match Best Local Simil Matches 6; C 2 QWAVXHL 7 CMAVCH	OMVA OMB_BON 01296; 11-JUL-1 1-FEB-1 OMBESIN OMBINA
	RESULT ALYT_A ID A AC AC	DI D	S C R R R R X X B	S F F T S S	Ou Be Ma Oy	RESULT BOMB_B BOMB_B ID M B AC B AC B DT DT O OS B B OC OC A AC OC A AC

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                  h. Blochem. Blophys. 148:446(1972).
FUNCTION: STIMULATES SMOOTH MUSCLE CONTRACTION. ROLE IN INDUCTION
FUNCTION: STIMULATION OF DNA REPLICATION AND RELEASE OF MANY
GASTROINTESTINAL HORMONES.
SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
MEDLINE=91088602; PubMed=2263631;
Spindel E.R., Gibson B.W., Reeve J.R. Jr., Kelly M.;
Spindel E.R., Gibson B.W., Reeve J.R. Jr., Kelly M.;
"Cloning of cDNAs encoding amphibian bombesin: evidence for the relationship between bombesin and gastrin-releasing peptide.";
Proc. Natl. Acad. Sci. U.S.A. 87:9813-9817(1990).
-!- FUNCTION: STIMULATES SMOOTH MUSCLE CONTRACTION AND RELEASE OF MANY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
Richter K., Egger R., Kreil G.; "Molecular Cloning of a cDNA encoding the bombesin precursor in skin pp Bombina variegata." "" pp Bombina variegata." "" FEBS Lett. 262:353-355(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bombina orientalis (Oriental fire-bellied toad).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Archeobatrachia; Bombinatoridae; Bombina.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PYRROLIDONE CARBOXYLIC ACID.
AMIDATION (G-56 PROVIDE AMIDE GROUP).
9692B50600FAF618 CRC64;
                                                                                                   SPECIES-B.variegata, and B.bombina;
MEDILINE-72163516; PubMed-4537042;
Anastasi A., Erspamer V., Bucci M.;
"Isolation and amino acid sequences of alytesin and bombesin, two
analogous active tetradecapeptides from the skin of European
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Cleavage on pair of basic residues;
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01-May-1991 (Rel. 18, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
BOMBESIN PRECURSOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        119 AA
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55 Bo
42 Po
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12341 MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bombesin family; Amidation;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro; IPR000874; -.
                                                                                                                                                                                        discoglossid frogs.",
Arch. Biochem. Biophy
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PIR; B01564; BSTDY.
PIR; S09095; S09095.
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42
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107 AA;
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Richter K.,
                                                                                   SEQUENCE OF
                                                                                                                                                                                                                                                                                         FAMILY.
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P21591;
                                                 FEBS Lett.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOD_RES
MOD_RES
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Signal.
SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PEPTIDE
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BOMB_BOMOR
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                                                                                                                                                                            entities requires a license agreement (See http://www.isb-sib.ch/announce, or send an email to license@lsb-sib.ch).
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               SPECIFICITY: LOCALIZED TO THE CUTANEOUS GRANULAR GLANDS IN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE (METHYLATED VARIANT).
MEDLINE-7803546; PubMed-908397;
MEDLINE-7803546; PubMed-908397;
Annastasi A., Montecucchi P.C., Angelucci F., Erspamer V., Endeau R.;
"Glu(OMe)3-litorin, the second bombesin-like peptide occurring in methanol extracts of the skin of the Australian frog Litoria aurea.";
Experientia 33:1289-1289(1977).
-i - SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             daps
                                                                                                                                                                                                                                                                                                                                                         BOMBESIN.
AMIDATION (G-59 PROVIDE AMIDE GROUP).
3A3D84EA2445A44A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Litoria aurea (Australian frog).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleust All,
Amphibia, Batrachia, Anura, Neobatrachia, Bufonoidea, Hylidae;
                              THE SKIN AND THE BRAIN. SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
                                                                                                                                                                                                                                                                                               PROSITE; PS00257; BOMBESIN; 1. Bombesin family; Amidation; Cleavage on pair of basic residues;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Anastasi A., Erspamer V., Endean R., "Aminoacid composition and sequence of litorin, a bombesin-l., nonapeptide from the skin of the Australian leptodactylid fr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            o,
                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 1; Length 119;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  InterPro; IPR000874; -.
Pfam: PF02044; Bombesin; 1.
PROSITE; PS00257; BOMBESIN; 1.
Bombesin family; Amidation; Methylation.
MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-NOV-1988 (Rel. 09, Created)
01-FEB-1994 (Rel. 28, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           . 9 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                         92.1%; Score 35; DB : 85.7%; Pred. No. 1.3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=75187011; PubMed=1140241;
                                                                                                                                                                                                                                                                                                                                                       58 BC
58 AA
13863 MW;
GASTROINTESTINAL HORMONES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Experientia 31:510-511(1975).
                                                                                                                                                                                                                              EMBL; M55255; AAA48551.1; -.
                                                                                                                                                                                                                                                                          Pfam; PF02044; Bombesin; 1.
PROSITE; PS00257; BOMBESIN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             6; Conservative
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                                                                                                                                                                                                                                                              InterPro; IPR000874;
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PIR; S07205; S07205.
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                                                                                                                                                                                                                                                                                                                                                                                           119 AA;
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Best Local Similarity
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58
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51 QWAVGHL 57
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MOD_RES
SEQUENCE
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                                                                                                                                                                                                                                                                                                                               Signal.
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YB9H_YEAST
P38340;
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MOD_RES
SEQUENCE
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SIGNAL
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Roberts J.D., Metchiorri P., Erspamer V.;
"Six novel tachykinin- and bombesin-related peptides from the skin of
the Australian frog Pseudophryne guntheri.";
Peptides 11:299-304(1990).
-!- SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
                                                                                                                                                                                                           Pseudophryne guentheri (frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Neobatrachia; Bufonoidea; Myobatrachidae;
                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
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Ranidae; Rana.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=88330837; PubMed=2458345;
Krane I.M., Naylor S.L., Helin-Davis D., Chin W.W., Spindel E.R.;
                                                                  0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 31; DB 1; Length 13;
Pred. No. 1;
METHYLATION (IN A VARIANT).
AMIDATION.
D7CCC1E862CDC366 CRC64;
                                                                 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1; Indels
                                              Score 31; DB 1; Length
Pred. No. 9.3e+04;
); Mismatches 1; Inde
                                                                                                                                                                                                                                                                                                                                                                                                                           AMIDATION.
D6DE0D24BD98C366 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Rana pipiens (Northern leopard frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Amphibia; Batrachia; Anura; Neobatrachia; Ranoidea;
NCBI_TaxID=8404;
                                                                                                                                                                       01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
01-NOV-1995 (Rel. 32, Last annotation update)
BOMBESIN-LIKE PEFTIDE L (PG-L).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-NOV-1988 (Rel. 09, Created)
01-NOV-1988 (Rel. 09, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
RANATENSIN PRECURSOR.
                                                                                                                                                      13 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       82 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Mismatches
                                                                                                                                                      PRT;
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MEDLINE=90287814; PubMed=2356157;
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0
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InterPro; IPR000874; -.
Pfam; PF02044; Bombesin; 1.
PROSITE; PS00257; BOMBESIN; 1.
                                               81.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                81.6%;
83.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                  13 AA; 1372 MW;
                   1103 MW;
                                                                                                                                                                                                                                                                                                                                                                                                        Bombesin family; Amidation
                                             Query Match 81.6
Best Local Similarity 83.3
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STANDARD;
                                                                                                                                                      STANDARD;
20
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est Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
2
9 AA;
                                                                                                                                                                                                                                        Pseudophryne.
NCBI_TaxID=30349;
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6 QWAVGH 11
                                                                                    2 QWAVXH 7
                                                                                               1111 |
2 QWAVGH 7
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                                                                                                                                                     BOML_PSEGU
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P08950;
MOD_RES
MOD_RES
SEQUENCE
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SEQUENCE
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                                                                                                                                                               P42991
                                                                                                                                  RESULT 5
BOML_PSEGU
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RANA_RANPI
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"Molecular cloning of cDNAs encoding the human bombesin-like prptide neuromedin B. Chromosomal localization and comparison to cDNAs encoding its amphibian homolog ranatensin.";
J. Biol. Chem. 263:13317-13323(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Japs
                                                                                                                                                                    Nakajima T., Tanimura T., Pisano J.J.;
"Isolation and structure of a new vasoactive polypeptide."
Fed. Proc. 29:282-282(1970).
-!- SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Saccharomyces cerevisiae (Baker's yeast).
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycett.
Saccharomycetales; Saccharomycetaceae; Saccharomyces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pfan, PF02044; Bombesin; 1.
PROSITE; PS00257; BOMBESIN; 1.
Bombesin family; Amidation; Cleavage on pair of basic residue.
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Dolgmon F., Biteau N., Crouzet M., Aigle M.;
The complete sequence of a 19,482 bp segment located on the arm of chromosome II from Saccharomyces cerevisiae.";
Feast 9:189-199(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-OCT-1994 (Rel. 30, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
HYPOTHETICAL 26.1 KDA PROTEIN IN POP4-SHM1 INTERGENIC REGION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AMIDATION (G-59 PROVIDE AMIDE 09194FFD0E7436DE CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 82;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 1;
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Pred. No. 6
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30, Last sequ
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47
58
58
9159 MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IPR000874; -.
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Best Local Similarity
                                                                                                                                               SEQUENCE OF 48-58.
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28
48
58
82 AA;
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RESULT 9
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MEURAL/ECTODERMAL DEVELOPMENT FACTOR IMP-
L2.
IG-LIKE C2-TYPE DOMAIN.
IG-LIKE C2-TYPE DOMAIN.
                                                                                                                                                                                                                                                                                         Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
NCBL_TaxID=7227;
                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                            IN
BE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DEVELOPMENTAL STAGE: FIRST EXPRESSED AT THE CELLULAR BLASTODERM STAGE AND CONTINUES TO BE EXPRESSED THROUGH SUBSEQUENT
                                                                                                                                                                                                                                                                                                                                  SUBCELLULAR LOCATION: EXTRACELLULAR.
TISSUE SPECIFICITY: DETECTED IN SEVERAL SITES INCLUDING THE VENTRAL NEUROECTODERM, THE TRACHEAL PITS, THE PHARYNX AND OESOPRAGUS, AND SPECIFIC NEURONAL CELL BODIES, WHERE IT IS PRIMARILY EXPRESSED.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INDUCTION: BY 20-HYDROXYECDYSONE. SIMILARITY: CONTAINS 2 IMMUNOGLOBULIN-LIKE C2-TYPE DOMAINS.
                                                                                                             ö
                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
                                                                                       Length 232;
                                                                                                             Indels
                                                          66699F37B0013088 CRC64;
                                                                                                                                                                                                                        01-FEB-1995 (Rel. 31, Created)
01-FEB-1995 (Rel. 31, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
NEURAL/ECTODERMAL DEVELOPMENT FACTOR IMP-L2 PRECURSOR.
                                                                                          Τ;
                                                                                       Score 31; DB
Pred. No. 16;
0; Mismatches
                                                                                                                                                                                                                                                                           Drosophila melanogaster (Fruit fly)
       EMBL; X70529; CAA49926.1; -.
EMBL; Z36130; CAA85224.1; -.
PIR; S32963; S32963.
SGD; S0000465; YBR261C.
Hypothetical protein.
SEQUENCE 232 AA; 26068 MW; 6
                                                                                         81.6%;
71.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FlyBase; FBgn0001257; ImpL2.
InterPro; IPR003006; -
Pfam; PF00047; ig; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Immunoglobulin domain; Cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; L23066; AAB59251.1; -
                                                                                                             Conservative
                                                                                                                                                                                                      STANDARD;
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263
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247
                                                                               Query Match
Best Local Similarity
'-hag 5; Conserva
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                                                                                                                                            139 QWCVGHL 145
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184
                                                                                                                                2 QWAVXHL 8
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DOMAIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ovis aries (Sheep).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sadanandan 21., Jeyaseelan K.;
Submitted (FEB-1994) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: INHIBIN IS A GONADAL GLYCOPEPTIDE THAT INHIBITS 1HE SECRETTON OF FOLLITROPIN BY THE PITUITARY GLAND.
-!- SUBUNIT: DIMERIC, LINKED BY ONE OR MORE DISULFIDE BONDS.
INHIBIN A IS A DIMER OF ALPHA AND BETA-A.
INHIBIN B IS A DIMER OF ALPHA AND BETA-A.
-!- SIMILARITY: BELONGS TO THE TGF-BETA FAMILY.
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BY SIMILARITY.
BY SIMILARITY.
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLORAC. . . ) (POTENTIAL).
N-LINKED (GLORAC. . . ) (POTENTIAL).
W. D880E99AB156B6656 CRC64;
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PROSITE; PS00250; TGF_BETA_1; 1.
Follitropin inhibitor; Contraceptive; Hormone; Glycoprotein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 265;
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                                                              44AADB1B22DD1804 CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                         01-0CT-1994 (Rel. 30, Created)
01-0CT-1994 (Rel. 30, Last sequence update)
01-0CT-1994 (Rel. 30, Last annotation update)
INHIBIN ALPHA CHAIN (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                   265 AA.
  BY SIMILARITY.
BY SIMILARITY.
                                                                                                                            Score 31; DB
Pred. No. 18;
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Pred. No. 19;
                                                                                                                                                                      0; Mismatches
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  135 B)
240 B)
173 V
29421 MW;
                                                                                                                            81.6%;
71.4%;
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71.4%;
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76
191
173
263 AA;
                                                                                                                            Query Match
Best Local Similarity
Matches 5; Conserv
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Best Local Similarity
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74 RWAVLHL 80
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CARBOHYD
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us-09-630-333-3.rsp

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Indels

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Mismatches

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5; Conservative

Matches

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                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
TISSUBE-Follitular fluid;
MEDLINE-86205842; PubMed-3458167;
Forage R.G., Ring J.M., Brown R.W., McInerney B.V., Cobon G.S.,
Gregson R.P., Robertson D.M., Morgan F.J., Hearn M.T.W., Findlay J.K.,
Wettenhall R.E.H., Burger H.G., de Kretser D.M.,
[Cloning and sequence analysis of cDNA species coding for the two
subunits of inhibin from bovine follicular fluid.";
Proc. Natl. Acad. Sci. U.S.A. 83:3091-3095(1986).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRINTS; PRO0669; INHIBINA.
PROSITE; PS00250; TGE_BETA_1; 1.
Follitropin inhibitor; Contraceptive; Hormone; Glycoprotein; Signal.
SIGNAL 1 17 POTENTIAL.
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                                                                                                                                                                   Eukaryota: Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Thompson D.A., Cronin C.N., Martin F.; "Genomic cloning and sequence analyses of the bovine alpha-, beta and beta B-inhibin/activin genes. Identification of transcription factor AP-2-binding sites in the 5'-flanking regions by DNase I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EUT. J. BIOCHEM. 226:751-764(1994).

-!- FUNCTION: INHIBIN IS A GONADAL GLYCOPEPTIDE THAT INHIBITS THE SECRETION: INHIBIN IS A FOLLITROPIN BY THE PITUITARY GLAND.

-!- SUBUNIT: DIMERIC, LINKED BY ONE OR MORE DISULPIDE BONDS.

INHIBIN A IS A DIMER OF ALPHA AND BETA-A.

INHIBIN B IS A DIMER OF ALPHA AND BETA-A.

-!- SIMILARITY: BELONGS TO THE TGF-BETA FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. .) (POTENTIAL).
N-LINKED (GLCNAC. .) (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FBBF385DD1EFEF46 CRC64;
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                                                                   01-AUG-1988 (Rel. 08, Created)
01-AUG-1988 (Rel. 08, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
INHIBIN ALPHA CHAIN PRECURSOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
                                    360 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              or send an email to license@isb-sib.ch).
                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=95112839; PubMed=7813465;
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EMBL; A14416; CAA01156.1; -...
EMBL; U16277; AAB60262.1; -...
PIR; A25732; A25732.
InterPro; IPR001839; -...
InterPro; IPR001839; -...
Pfam; PF00019; TGF-beta; 1.
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                                    STANDARD;
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360
322
357
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140
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262
360 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  footprinting.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                           TISSUE=Liver
                                IHA_BOVIN
P07994;
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RESULT 10
IHA_BOVIN
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Score 31; DB 1; Length 360; Pred. No. 25;

81.68; 71.48;

Query Match Best Local Similarity

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                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A., AND SEQUENCE OF 231-256.

TISSUE-CVARIAN follicular fluid;
MEDLINE-86092207; PubMed=2417121;
MASON A.J., Hayflick J.S., Ling F., Guillemin R., Niall H., Seeburg P.H.;
"Complementary DNA sequences of ovarian follicular fluid inhitm show precursor structure and homology with transforming growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRINTS; PR00669; INHIBINA, PROSITE; PS00250; TGF_BETA_1; 1. FOllitropin inhibitor; Contraceptive; Hormone; Glycoprotein; ...gual. SIGNAL 1 17
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BY SIMILARITY.
BY SIMILARITY.
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. .) (POTEN!!
N-LINKED (GLCNAC. .) (POTEN!!
R -> H (IN REF. 2).
A -> T (IN REF. 2).
                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
MEDLINE=86287350; PubMed=3016724;
MADLINE=86287350; PubMed=3016724;
Mayor K.E., Cerelli G.M., Spiess J., Rivier J., Rosenfeld M.G.,
Evans R.M., Vale W.; M. From Porcine ovary and human placenta.":
Proc. Natl. Acad. Sci. U.S.A. 83:5849-5853(1986).
                                                                                                                                                                                                                      Euteleost....
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Nature 318:659-663(1985).
-!- FUNCTION: INHIBIN IS A GONADAL GLYCOPEPTIDE THAT INHIBITS SECRETION OF FOLLITROPIN BY THE PITUTARY GLAND.
-!- SUBUNIT: DIMERIC, LINKED BY ONE OR WORE DISULFIDE BONDS.
INHIBIN A IS A DIMER OF ALPHA AND BETA-A.
INHIBIN B IS A DIMER OF ALPHA AND BETA-B.
                                                                                                                                                                                                                    Eukaryota, Metazoa, Chordata, Craniata, Vertebrata,
Mammalia, Eutheria, Cetartiodactyla, Suina, Suidae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        INHIBIN ALPHA CHAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -!- SIMILARITY: BELONGS TO THE TGF-BETA FAMILY.
                                                                                                                              01-NOV-1986 (Rel. 03, Created)
01-APR-1988 (Rel. 07, Last sequence update)
01-FEB-1996 (Rel. 33, Last annotation update)
                                                                                                    364 AA.
                                                                                                                                                                           INHIBIN ALPHA CHAIN PRECURSOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; X03265; CAA27019.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pfam; PF00019; TGF-beta; 1.
                                                                                                      STANDARD;
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PIR; A25947; A25947.
InterPro; IPR001839; -.
InterPro; IPR002405; -.
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326
361
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                           169 RWAVLHL 175
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260
289
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144
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2 QWAVXHL 8
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CARBOHYD
CONFLICT
CONFLICT
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SO

IHA MOUSE

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366 AA
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1; Mismatches
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MEDLINE=90190649; PubMed=2628729;
PRINTS; PR00669; INHIBINA.
PROSITE; PS00250; TGF_BETA_1; 1.
Follitropin inhibitor; Contracep'
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71.4%;
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Best Local Similarity 71.*
5; Conservative
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233
366
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328
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367
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165
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DISULFID
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Higashinakagawa T.;

"Expression of inhibin alpha-subunit gene during mouse gametogenesis.";

Differentiation 44:62-68(1990).

-! FUNCTION: INHIBIN IS A GONADAL GLYCOPEPTIDE THAT INHIBITS THE SECRETION OF FOLLITROPIN BY THE PITUITARY GLAND. ON THE OTHER HAND ACTIVIN ACTIVATES THE SECRETION OF FOLLITROPIN.

-! SUBUNIT: DIMERIC, LINKED BY ONE OR MORE DISULFIDE BONDS.

INHIBIN A IS A DIMER OF ALPHA AND BETA-A.

INHIBIN B IS A DIMER OF ALPHA AND BETA-B.
                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
MEDLINE-93321614; PubMed=8330535;
Albano P.M., Groome N., Smith J.C.;
Attain are expressed in preimplantation mouse embryos and in ES and EC cells and are regulated on their differentiation.";
Development 117:711-723(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
MEDILINE-92337610;
Su J.G.W., Hsueh A.J.W.,
Su J.G.W., Hsueh A.J.W.,
Su A.G.W., Hsueh A.J.W.,
Buochem. Biophys. Res. Commun. 186:293-300(1992).
                                                                                                                                                                                                                                                                                                                                   Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN=SWISS WEBSTER;
MEDLINE=91071531; PubMed=2253839;
Tone S., Katoh Y., Fujimoto H., Togashi S., Yanazawa M., Kato Y.,
                                                                           ;
0
                                             Length 364;
                                                                           1; Indels
   BB595B9B7958A168 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SIMILARITY: BELONGS TO THE TGF-BETA FAMILY.
                                             Score 31; DB 1;
Pred. No. 25;
1; Mismatches
                                                                                                                                                                                                                                         01-FEB-1994 (Rel. 28, Created)
01-FEB-1994 (Rel. 28, Last sequence update)
01-OCT-1996 (Rel. 34, Last annotation update)
                                                                                                                                                                                                                366 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      or send an email to license@isb-sib.ch)
                                                                                                                                                                                                                PRT;
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EMBL; M95526; AAA39314.1; JOINED.
EMBL; X55957; CAA39424.1; -.
   364 AA; 39160 MW;
                                                                                                                                                                                                                                                                                         INHIBIN ALPHA CHAIN PRECURSOR
                                             81.68;
71.48;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     InterPro; IPR002405; -.
Pfam; PF00019; TGF-beta; 1.
                                             Query Match 81.6
Best Local Similarity 71.4
Matches 5; Conservative
                                                                                                                                                                                                                  STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MGD; MGI:96569; Inha.
InterPro; IPR001839; -.
InterPro; IPR002405; -.
                                                                                                                                                                                                                                                                                                                       Mus musculus (Mouse)
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PIR; JC1106; JC1106.
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173 RWAVLHL 179
                                                                                                      2 QWAVXHL 8
                                                                                                                                                                                                              IHA_MOUSE
Q04997;
   SEQUENCE
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Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Feng Z.-M., Li Y.-P., Chen C.-L.C.;
"Analysis of the 5' flanking regions of rat inhibin alpha at the beta-B-subunit genes suggests two different regulatory mechanisms.";
Mol. Endocrinol. 3:1914-1925(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDINE-90331931; PubMed-2484214; Esch F.S., Shimasaki S., Cooksey K., Mercado M., Mason A.J., Ying S.Y., Ueno N., Ling N.; "Complementary deoxyribonucleic acid (cDNA) cloning and DNA sequence
Contraceptive, Hormone; Glycoprotein; Signal. POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
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MEDLINE=91042598; PubMed=3153478;
Woodruff T.K., Memuler H., Jones P.B.C., Hsueh A.J.W., Mayo K.E.;
"Rat inhibin: molecular cloning of alpha- and beta-subunit
complementary deoxyribonucleic acids and expression in the ovary.";
Mol. Endocrinol, 1:561-568(1987).
                                                                        INHIBIN ALPHA CHAIN.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POTENTIAL).
N-LINKED (GLCNAC. . .) (POTENTIAL).
A -> R (IN REF. 2).
T -> R (IN REF. 2 AND 3).
T -> R (IN REF. 2 AND 3).
T -> R (IN REF. 2 AND 3).
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01-AUG-1990 (Rel. 15, Last sequence update)
01-NOV-1995 (Rel. 32, Last annotation update)
INHIBIN ALPHA CHAIN PRECURSOR.
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                                                                                                                                                                                                                                                                                 Pfam; Pruduis; ... Pruduis; ... Pruduis; Problems; PRO0669; INHIBINA.
PROSITE; PS00250; TG_BETA_1; 1.
FOllitropin inhibitor; Contraceptive; Hormone; Glycoprotein; Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -1- SUBUNIT: MBF CONTAINS SWI6 AND MBP1; SBF CONTAINS SWI6 AND SWI4-
-1- SIMILARITY: STRONG, TO S.POMBE CDC10.
-1- SIMILARITY: CONTAINS 2 ANK REPEATS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CELL CYCLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-FEB-1995 (Rel. 31, Created)
01-FEB-1995 (Rel. 31, Last sequence update)
01-0CT-2000 (Rel. 40, Last annotation update)
REGULATORY PROTEIN SWIG (CELL-YCLE BOX FACTOR, CHAIN SWIG) (TRANSACTING ACTIVATOR OF HO ENDONUCLEASE GENE) (MBF SUBUNIT P90).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
MEDLINE-9338264; Jubmed-8372350;
Koch C., Moll T., Neuberg M., Ahorn H., Nasmyth K.;
Koch C., Moll T., Neuberg M., Ahorn H., Nasmyth K.;
Tole for the transcription factors Mbpl and Swi4 in progression from G1 to S phase."; Science 26:1:551-1557(1993).

Science 26:1:551-1557(1993).

-!- FUNCTION: PARP OF A COMPLEX INVOLVED IN CELL-CYCLE-DEPENDENT TRANSCRIPTION. SWI4 AND SWI6 ARE REQUIRED FOR FORMATION OF THE CELL-CYCLE BOX FACTOR-DNA COMPLEX. THE REPEATED ELEMENT IN THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Kluyveromyces lactis (Yeast).
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
Saccharomycetales; Saccharomycetaceae; Kluyveromyces.
NCBI_TaxID=28985;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 DITERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POTENTIAL).
N-LINKED (GLCNAC. . .) (POTENTIAL).
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Pred. No. 25;
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BY SIMILARITY.
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EMBL; M32754; AAA41437.1; JOINED.
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ilarity 71.4%;
Conservative
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233
366
328
363
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269
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PIR; A41398; A41398.
PIR; A40056; A40056.
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366 AA;
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Best Local Similarity
Matches 5; Conserv
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P40418;
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the European Bioinformatics Institute. There are no restrictions on
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Ranidae; Rana.
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                                                                                                    Interro.

Interro.

PROMOSS, ANK, 2.

PROSITE; PS50297; ANK_REPEAT; 2.

PROSITE; PS50297; ANK_REP_REGION; 2.

Transcription regulation; DNN-binding; ANK repeat.

REPEAT 286 315 ANK 1.

ANY 1.

ANY 2.

ANY 2.
                                                                                                                                                                                                                      Length 769;
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                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Amphibia; Batrachia; Anura; Neobatrachia; Ranoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ä
                                                                                                                                                                                                                       Score 31; DB 1;
Pred. No. 51;
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Pred. No. 1.3;
0; Mismatches
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01-NOV-1991 (Rel. 20, Last sequence update)
01-APR-1993 (Rel. 25, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                   Rana ridibunda (Laughing frog) (Marsh frog).
                                                                                                                                                                                                                                                                                                                                                           10 AA.
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1; Mismatches
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Pfam; PF02044; Bombesin; 1.
PROSITE; PS00257; BOMBESIN; 1.
                                                                                                                                                                                                                       81.6%;
57.1%;
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83.3%;
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                                                                      EMBL; X74292; CAA52345.1; -. PIR; S36657; S36657.
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                                                                                                                                                                                                                                                 4; Conservative
                                                                                              InterPro; IPR002110;
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Best Local Similarity
Matches 4; Conserv
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Best Local Similarity
Matches 5; Conserv
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409 QWVITHL 415
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4 WAVGHL
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P23260;
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Bombesin antagonist; malignant disease; therapy; gastric act.
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AARO4526
AARO4526
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AARO84528
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AAR11522
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/note="Ac-D-Gln'
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/note="Leu-OMe"
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/note="D-Ala"
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Linear Litorin ana
Linear Litorin ana
Bombesin analogue
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                                                                       Search time 129.78 Seconds (without alignments) 3.737 Million cell updates/sec
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Scoring table:

Title: Perfect score:

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Bombesin peptide a
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Non-cyclic analoru.
Non-cyclic analoru.
Non-cyclic analoru.
Non-cyclic analoru.
Example of peptide

Peptide analogum #

veret

(ICIL) IMPERIAL CHEM INDS PLC

88GB-0013355

06-JUN-1988;

110 98 7 98 911

Result Š.

Sequence of new ne Bombesin/gastrin-r Non-cyclic analogu Linear litorin ana Linear litorin ana

Peptide analog. # Peptide analogue # Bombesin analogue Peptide derived fr Peptide derived fr

Peptide Peptide

Peptide analogue # Bombesin antagonis Bombesin antagonis Bombesin receptor

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5-200 mg/dose.
                                                                                                                                                                                                                                                                  Synthetic.
                                               Query Match
Best Local S
Matches 6
                                                                                                                                                                            AAR32998;
                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                               AAR32998
 SXC
                                                                                                        g
                                                                                                                                                                   δŽ
                                                                                                                                                                                                         ·;
                                                                                                       It is a potent bombesin antagonist. It may be used for the treatment of e.g. malignant disease, conditions associated with the over-prodn. of bombesin and conditions associated with failure of normal physiological control of the regulation of gastric acid secretion.
                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The peptide is modified at the N-terminal with a lauryl, palmitoyl or esp. an octanoyl gp. The Leu at position 7 may be absent. The C-terminal (Leu or His) is amidated. The peptides and derived salts can be used to treat small cell lung carcinoma, prostatic carcinoma, tumour tissue growth, peptide ulcers, cancer and associated conditions, and to effect antagonism of bombosin/gastrin releasing peptide. Dosage is 0.2-250 mg/kg daily in 1-4 doses, at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New peptide bombesin-GRP antagonists - used as antitumour agents to treat e.g. leukaemia, small cell lung and prostatic carcinoma and to inhibit gastric acid secretion.
                                   New Neuromedin C polypeptide derivs. - are potent bombesin antagonist used for treating malignant disease and conditions associated with gastrin or gastric acid secretion
                                                                                                                                                                                                         .;
0
                                                                                                                                                                                   Score 36; DB 10; Length 7; Pred. No. 3.4e+05; 0; Mismatches 1; Indels
 Hayward CF;
                                                                                     Disclosure; Page 929; 49pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                              AAR20585 standard; Peptide; 7 AA.
Dutta AS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 7; Page 12; 14pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                   /note= "D-Ala"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (RICH ) MERRELL DOW PHARM INC
                                                                                                                                                                                    94.78;
85.78;
                                                                                                                                                                                                                                                                                                                                                                           Antitumour agent; leukaemia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              91EP-0112504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                90US-0558031
                                                                                                                                                                                                                                                                                                                                                        Antagonist of bombesin/GRP.
                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                         6; Conservative
Cotton R,
                 WPI; 1989-139341/19.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 1992-034251/05.
                                                                                                                                                                                   ery Match
st Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                         Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Krstenansky JL;
                                                                                                                                                                                                                           2 QWAVXHL 8
                                                                                                                                                                                                                                     ||||| ||
| gwavah| 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            25-JUL-1991;
                                                                                                                                                                                                                                                                                                                                    07-MAY-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               26-JUL-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          29-JAN-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                       EP468497-A
Camble R,
                                                                                                                                                                                                                                                                                                                                                                                             Synthetic
                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                 AAR20585
                                                                                                                                                                                                                                                                                    AAR20585
δλ
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The peptides in this example are bombesin analogues. The peptides were tested in a competitive binding assay and a Phosphatidyl Inositol (PI)-turnover assay in mouse pancreas. None of the peptides demonstrated agonist activity but all inhibited PI-turnover (c.f. stimulation produced by 100nM GRP). Analogues of bombesin are potentially useful for growth therapy and the treatment of digestive disorders, e.g. for stimulating digestion, stimulating growth of tissue in the lung, pancreas and intestine, stimulating with cell activity against tumour cells and stimulating growth of tumours to
                                                                                                                                              . dr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /label= OTHER
/note= "N-alpha-acetyl-Gln, N-alpha-octyl-Gln,
N-alpha-lauryl-Gln or N-alpha-palmityl Gln"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New bombesin peptide agonists and antagonists - stimulate or inhibit digestion, increase susceptibility of tumours to chemotherapeutic agents, treat gastric ulcers and tumours etc
                                                                                    Length 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Intracellular signal; inhibition; gastrointestinal tract;
litorin; Gastrin Releasing Peptide; GRP.
                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     increase susceptibility to chemotherapeutic agents
                                                                                 Score 36; DB 13; I. Pred. No. 3.4e+05; ); Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    [D-Ala11]-bombesin(7-13)amide derivs.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                              AAR32998 standard; peptide; 7 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note= "amidated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Example; Page 40; 64pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     'note= "D-Ala"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (RICH ) MERRELL DOW PHARM INC
                                                                                 94.78;
85.78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                92WO-US03287.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     91US-0704863.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             13-APR-1993 (first entry
                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Fanger BO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 1992-415707/50.
                                                                                                              Similarity
6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Misc-difference 5
7 AA;
                                                                                                                                                                                                2 QWAVXHL 8
                                                                                                                                                                                                                                                     qwavahl 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Key
Modified-site
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Edwards JV,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO9220707-A
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Sequence
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                                                                           AAP20294
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                                                                RESULT
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                             Db
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The present sequence represents a bombesin/gastrin releasing peptide type inhibitor peptide. The peptide may be used as an antimitotic and antisecretory peptide. It can control growth of small cell lung and prostatic carcinomas, and it can also inhibit gastric secretions which are causative and symptomatic of peptic ulcers. Administration may be oral but is preferably subcutaneous, intravenous, intranscular or intraperitoneal, by depot injection, by implant preparation or by application to the mucous membranes (e.g. of the nose or bronchial
                      Gaps
                                                                                                                                                                                                        Bombesin; gastrin releasing peptide; GRP; inhibitor; antagonist; small cell lung carcinoma; tumour; frog; antimitotic; antisecretory; peptic ulcer.
                                                                                                                                                                                                                                                                                                            /note= "optionally modified by octanoyl, lauroyl or
    palmitoyl"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New peptide antagonists of bombesin or gastrin releasing peptide are useful as antimitotic and antisecretory agents in treating, e.g., small cell lung carcinoma or peptic ulcers
                      ő
                                                                                                                                                                                      Bombesin/gastrin releasing peptide type inhibitor peptide #2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 36; DB 20; Length 7; Pred. No. 3.4e+05; 0; Mismatches 1; Indels
 Length 7;
94.7%; Score 36; DB 13; Length 7; 85.7%; Pred. No. 3.4e+05; ive 0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                            "amidated"
                                                                                                                    AAW94610 standard; peptide; 7 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 5; Column 14; 9pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                              91US-0735402.
90US-0558031.
94US-0278692.
95US-0447528.
96US-0960130.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 85.7%;
Matches 6; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                           96US-0960130
                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (RICH ) MERRELL PHARM INC.
                      6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1999-141255/12.
          Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tubes) by aerosol
                                                                                                                                                                                                                                                     Synthetic.
Bombina bombina.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Krstenansky JL;
                                          OWAVXHL 8
                                                        ||||| ||
1 qwavahl 7
                                                                                                                                                                                                                                                                                       Key
Modified-site
                                                                                                                                                                                                                                                                                                                               Modified-site
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23-MAY-1995;
                                                                                                                                                                                                                                                                                                                                                                US5834433-A
                                                                                                                                                                                                                                                                                                                                                                                                                                            26-JUL-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           23-FEB-1996;
                                                                                                                                                                                                                                                                                                                                                                                      10-NOV-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                         AAW94610;
 Query Match
            Best Loc
Matches
                                          ~
                                                                                                           AAW94610
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Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Octa:peptide bombesin analogues - having hypothermic and analgesic props.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 36; DB 3; 1
Pred. No. 3.4e+05;
0; Mismatches 1.
                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAR11241 standard; Protein; 8 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Rivier JEF;
                                                                                                                 AAP20294 standard; peptide; 8 AA.
                                                                                                                                                                                                                                                Bombesin; hypothermic; analgesic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 8; Column 8; 5pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Linear litorin analogue (III).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (48049E).
                                                                                                                                                                                                                                                                                                                                                 /label= D-Glu
                                                                                                                                                                                                                                                                                                                                                                                  /label- D-Ala
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 94.7%;
85.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  80US-0193621.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   80US-0193621,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (SALK-) SALK INST BIOLOGICA
                                                                                                                                                                              09-DEC-1992 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  17-MAY-1991 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ouery Match
Best Local Similarity 85.,
                                                                                                                                                                                                                 Bombesin analog peptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Brown MR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 1982-48049E/23
                                                                                                                                                                                                                                                                                                                                Misc-difference 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8 AA;
2 OWAVXHL 8
|||| ||
1 qwavahl 7
                                                                                                                                                                                                                                                                                                                                                                 Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ||||| ||
| qwavahl 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 OWAVXHL 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  03-OCT-1980;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 03-OCT-1980;
                                                                                                                                                                                                                                                                                                                                                                                                                   US4331661-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                 25-MAY-1982.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Marki WE,
                                                                                                                                                                                                                                                                                  Synthetic.
                                                                                                                                                 AAP20294;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAR11241;
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Gaps

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Location/Qualifiers
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                                                                                                                                                                                                                                     SH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    94.78;
85.78;
                                                                                                                              90WO-US04646,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 16-APR-1993 (first entry)
                                                                                                                                                                                                                                   Kim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 94.7
Best Local Similarity 85.7
Matches 6; Conservative
                                                                                                                                                                                                           (BIOM-) BIOMEASURE INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     See also AAR11239-242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bombesin analogue (5)
                                                                                                                                                                                                                                     Coy DH, Moreau JP,
                                                                                                                                                                                                                                                           WPI; 1991-087241/12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Key
Misc-difference 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
     Key
Modified-site
                                        Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |||| ||
qwavahl 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Modified-site
                                                                                                                              17-AUG-1990;
                                                                                                                                                        21-AUG-1989;
30-MAR-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2 QWAVXHL
                                                                           WO9102746-A
                                                                                                      07-MAR-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          bombesin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAR29155;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAR29155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT
    δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ;
0
                                                                                                                                                                                                                                                                                                                                                                                               This peptide is a specifically claimed example of a generic formula. The C-terminal amino acid (Met) of the naturally occurring peptide has been converted to an amide and Phe 8 has been replaced by beta-Leu. Gly 6 has also been replaced by D-Ala. The peptide is useful for treating benign or malignant tissue proliferation, artherosclerosis, gastrointestinal disorders and diabetes. They act as competitive inhibitors of natural peptides, since they bind to the cell receptors but have no biological
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                    New linear peptide analogues of bombesin - modified to eliminate biological activity while retaining receptor affinity, for treating cancer, diabetes, etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;
Bombesin; litorin analogue; linear; receptor affinity; cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bombesin; litorin analogue; linear; receptor affinity; cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The analogue may also be of a naturally occurring peptide terminating at the C-terminus with a Met residue, such as the 10 amino acid C-terminal region of mammalian GRP or amphibian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 36; DB 12; Length 8; Pred. No. 3.4e+05; 0; Mismatches 1; Indels
                                                                                  //label= D-p-chloro-phenylalanine
                                                               Location/Qualifiers
                                                                                                                                                                                                                                 (TULA ) ADMIN TULANE EDUCATIONAL. (BIOM-) BIOMEASURE INC.
                                                                                                                                                                                                                                                                                                                                                                          Claim 18; Page 54; 58pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAR11242 standard; Protein; 8 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Linear litorin analogue (IV).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     94.7%;
85.7%;
                                                                                                                                                                                                                                                                        Kim SH;
                                                                                                                                                                    90WO-US04646
                                                                                                                                                                                           89US-0397169
90US-0502438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     See also AAR11239-242.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      duery Match
Best Local Similarity
                                                                                                                                                                                                                                                                        Moreau JP,
                                                                                                                                                                                                                                                                                              WPI; 1991-087241/12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ||||| ||
2 qwavahl 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 QWAVXHL 8
                                                               Key
Modified-site
                                                                                                                                                                   17-AUG-1990;
                                                                                                                                                                                           21-AUG-1989;
30-MAR-1990;
                                                                                                               WO9102746-A.
                                                                                                                                          07-MAR-1991.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 17-MAY-1991
                                     Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
             diabetes
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DH, Coy

AAR11242;

δ 셤 diabetes

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These peptides are specifically claimed examples of a generic formula. The C-terminal amino acid (Met) of the naturally occurring peptide has been converted to a methylester. The peptide is useful for treating benign or malignant tissum proliferation, artherosclerosis, gastrointestinal disorders and diabetes. They act as compettive inhibitors of natural peptides, since they bind to the cell receptors but have no biological.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New linear peptide analogues of bombesin - modified to eliminate biological activity while retaining receptor affinity, for treating cancer, diabetes, etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The analogue may also be of a naturally occurring peptide terminating at the C-terminus with a Met residue, such as the 10 amino acid C-terminal region of mammalian GRP or amphibian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 8;
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Pred. No. 3.4e+05;
0; Mismatches 1; Indels
/label=D-Phe, pentafluoro-Phe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note= "D-form residue"
                                                                          /label= N-methyl-D-Ala
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 20+21; Page 54; 58pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
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Kim SH,
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 соу рн,
              WPI; 1992-415466/50
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                                                                                                 8 AA;
                                                                                                                                                 2 QWAVXHL 8
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2 qwavahl
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                                    with carrier
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                                                                                                                                                                                                                                                                                                                                                                                                                       18-JUN-1993;
                                                                                                                                                                                                                                                                                                                                                                                     05-JAN-1995.
 Bodgen AE,
                                                                                                                                                                                                                                                                                           Synthetic
                                                                                                                                                                                                               AAW64911;
                                                                                                 Sequence
                                                                                     lines.
                                                                                                                                                                                   RESULT 10
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                                                                                                                                                                                                                                    Gaps
                                                                                                                                                             The peptide is an example of a highly generic formula. It is used in a medicament for treating hepatoma. The cpd. acts as antagonist to bombesin, which has been detected in a number of human cancer
                                                                                                                       Treatment of hepatoma - by admin. of admixed bombesin analogue with carrier
                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                    Score 36; DB 13; Length 8;
Pred. No. 3.4e+05;
0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                "D-form residue"
                                                                                                Kim SH, Moreau J;
                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                        Hepatoma; liver cancer; antagonist
                                                                                                                                                                                                                                                                                                                                                                                                  'note= "D-F5-Phe"
                                                                                                                                                                                                                                                                                                 AAR29157 standard; peptide; 8 AA.
                                                                                                                                                Claim 14; Page 48; 54pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                              /note= "Leu-OMe"
      /note= "Leu-OMe"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (BIOM-) BIOMEASURE INC. (TULA) TULANE EDUCATIONAL FUND.
                                                                           (BIOM-) BIOMEASURE INC. (TULA) TULANE EDUCATIONAL FUND.
                                                                                                                                                                                                                     94.78;
85.78;
                                                92WO-US03916.
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                                                             91US-0698681
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                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                 'note=
                                                                                                                                                                                                                                                                                                                                           Bombesin analogue (6)
                                                                                                Bodgen AE, Coy DH,
                                                                                                              WPI; 1992-415466/50
                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                8 AA;
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Modified-site
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2 qwavahl
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                                                11-MAY-1992;
                                                             10-MAY-1991;
                                                                                                                                                                                                                                                                                                                            16-APR-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                           WO9220363-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                          26-NOV-1992
                    W09220363-A
                                  26-NOV-1992
                                                                                                                                                                                                                                                                                                                                                                      Synthetic
                                                                                                                                                                                                 Sequence
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_note= "The amino terminal is acylated with accipt, bromoacetyl, chloroacetyl, [bis(2-chloroethyl) amino; L-phenylalanine or a chlorambucil group"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New bombesin, gastrin releasing peptide or Neuromedin B or \mathbb C derivs. - antagonists for treating conditions such as gastrointestinal disorders, psoriasis and cancers
                                                                                                                                                                                                                              The peptide is an example of a highly generic formula. It is ested in a medicament for treating hepatoma. The cpd. acts as antaqonist to bombesin, which has been detected in a number of human cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bombesin; antagonist; chlorambucil; peptic ulcer; pancreatilis, eating disorder; diabetes; acromegaly; enterocutaneous fistula; psoriasis; growth retardation; gastrointestinal motility disorder; antitumour.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                    Treatment of hepatoma - by admin. of admixed bombesin analogue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note= "The carboxy terminal is in the formethyl ester"
                                                                                                                                                                                                                                                                                                                                                                                                                     Score 36; DB 13; Length 8; Pred. No. 3.4e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Mismatches
Moreau J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Takahashi
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAW64911 standard; peptide; 8 AA.
                                                                                                                                                                               Claim 15; Page 48; 54pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                 94.7%;
85.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bombesin receptor antagonist.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    94WO-US06757
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93US-0078062
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Best Local Similarity 85./~
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The patent discloses (1) the peptide sequence of bombesin (BBN), gastrin releasing peptide (GRP), Neuromedin B or Neuromedin C, the peptide sequence having a chlorambucil group attached to the amino terminal; (2) a BBN receptor antagonist of formula and control of the sequence having a chlorambucil group attached to the amino terminal; (2) a BBN receptor antagonist of formula R Asn.R3-Trp-Ala-Val-R2-His-Leu-CO-CH2CH3.

R 4-His-Trp-Ala-R1-R2-His-R3-CO-CH2CH3.
In these formulae, R1 = Val or Thr: R2 = Gly or D-Ala: R3 = Leu or Phe: R4 = N-acetyl, bromoacetyl, chloroacetyl, [bis(2-chloroethyl)].

Phe: R4 = N-acetyl, bromoacetyl, chloroacetyl, [bis(2-chloroethyl)].

R 6 = N-acetyl, bromoacetyl, chloroacetyl, [bis(2-chloroethyl)].

The compounds act as potent BBN/GRP-like peptide antagonists. They can be used to inhibit the growth-promoting effects of BBN, GRP or a related peptide such as proceed to cancerous cells, gastric cells, neurons, hypothalamic cells and cancerous cells or tumours. They can also be used to inhibit the binding of BBN, GRP or a related peptide to cells capable of such binding. They can be used for treating e.g. peptic ulcer, pancreatitis, eating disorders, diabetes, acromegaly, enterocutaneous fistula, psoriasis, growth retardation, gastrointestinal motility disorders or tumours. The terminal structures of the compounds protect them from the vivo protecolysis and provided highly potent antagonist effects that persist for extended periods of time upon administration.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 36; DB 16; Length 8;
Pred. No. 3.4e+05;
0; Mismatches 1; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /label= H-pMel
/note= "pMel= p-bis (2-chloroethyl)
amino-L-phenylalanine"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bombesin receptor; agonist; antagonist.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAR09335 standard; peptide; 9 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /label= Met-NH2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                       94.7%;
85.7%;
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88GB-0017379.
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Matches 6; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                    8 AA;
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qwavahl {
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Bombesin receptor peptide ligands with irreversible effects - as agonists and antagonists both weak and strong

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Gaps
                                                                                                                                                                                                                                                                                                                                    Example of peptide agonist of GRP, neuromedin, bombesin and litorin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                 The inventors claim 36 peptides. Also claimed are:
(a) pharmaceutical prepn. of a peptide of the invention; (b) prepn.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This is a peptide analogue of mammalian gastrin releasing peptide (GRP), neuromedin-B or -C, amphibian bombesin and litorin. It is an agonist of these cpds, and is used to treat smooth muscule proliferation and cancer of the prostate, breast or lung.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    - by
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Treatment of non malignant proliferative disease and cancer administration of natural peptide or fragment selected from gastrin-releasing peptide, neuromedin, amphibian bombesin or
                                                                                                                        Score 36; DB 11; Length 9;
Pred. No. 3.4e+05;
); Mismatches 1; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                           /label= OTHER
/note= "D-p-chlorophenylalanine"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               94.7%; Score 36; DB 12;
85.7%; Pred. No. 3.4e+05;
ive 0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                             Non-malignant proliferative disease; cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Residue 6 (Ala) is D-alanine.
See also AAR11519-21 and AAR11523-30.
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                                                                                                                                                                                                                                                           AAR11522 standard; Protein; 9 AA.
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          Claim 2; Page 26; 32pp; English.
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89US-0408125.
89US-0440039.
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                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                Conservative
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Best Local Similarity 85.7
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bogden AE, Moreau J-P;
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                                                                                                            Query Match
Best Local Similarity
'Thea 6; Conserv?
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                                                            of the peptides.
                                                                                    9 AA;
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2 qwavahl
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21-NOV-1989;
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                                                                                    Sequence
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The C-terminal residue is amidated. This peptide is one of 27 specific examples of a highly generic formula. The peptides are all analogues of either litorin; the 10 amino acid C-terminal requestion of amphibian bombesin. They act as at least partial agonists of the natural peptides. The peptide analogues are made by stendard methods of synthesis and can be cyclised.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Peptide agonists of litorin, gastrin releasing peptides neuromedin B or C or bombesin, for treating cancer, p_1,\dots,p_{1,n} smooth muscle proliferation and suppressing appetite and alcohol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   tissue proliferation; gastrin related peptide; peptide hormone.
                                                                                tissue proliferation; gastrin related peptide; peptide hormon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Peptide analogue #8 of litorin, GRP, neuromedin or bombesin.
                                                Peptide analogue #7 of litorin, GRP, neuromedin or bombesin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          94.7%; Score 36; DB 12; Length 9; 85.7%; Pred. No. 3.4e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Mismatches
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                                                                                                                                               Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                      (TULA ) TULANE E FUND ADMINISTRA. (BIOM-) BIOMEASURE INC.
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                                                                                                                                                                             /label= D-Phe
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Matches 6; Conserv
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qwavahl 8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Peptide agonists of litorin, gastrin releasing peptide -
neuromedin B or C or bombesin, for treating cancer, preventing
smooth muscle proliferation and suppressing appetite and alcohol
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                                                                                                                                                                                                                                         tissue proliferation; gastrin related peptide; peptide hormone.
                                                                                                                                                                                                         Peptide analogue #6 of litorin, GRP, neuromedin or bombesin.
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Pred. No. 3.4e+05;
0; Mismatches 1; Indels
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(BIOM-) BIOMEASURE INC.
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Best Loc Matches

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The C-terminal residue is amidated. This peptide is one of 27 specific examples of a highly generic formula. The peptides are all analogues of either litorin; the 10 amino acid C-terminal region of mammalian GRP, neuromedin B or neuromedin C; or the 10 amino acid C-terminal region of amphibian bombesin. They act as at least partial agonists of the natural peptides. The peptide analogues are made by standard methods of synthesis and can be cyclised.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Peptide agonists of litorin, gastrin releasing peptide -
neuromedin B or C or bombesin, for treating cancer, preventing
smooth muscle proliferation and suppressing appetite and alcohol
                               /label= OTHER
/note= "D-para-chloro-Phe"
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(BIOM-) BIOMEASURE INC.
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Search completed: October 25, 2001, 11:22:45 Job time: 218 sec

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94.7%; Score 36; DB 12; Length 9; 85.7%; Pred. No. 3.4e+05; Live 0; Mismatches 1; Indels

Query Match
Best Local Similarity 85.7
Matches 6; Conservative

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RESULT 1
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Patent No. 5217955
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Sequence 9, Appl1
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/cgn2_6/ptodata/2/iaa/pcTuS_COMB.pep:*
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GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd
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RESULT 4
5217955.13
; Patent No. 5217955
; APPLICANT: aBGGDEN, ARTHUR E.; MOREAU, JACQUES-PIERRE
TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG
; OF BOMBESIN, GRP, LITORIN OR NEUROMEDIN
NUMBER OF SEQUENCES: 42
CURRENT APPLICATION DATA:
APPLICATION NUMBER: 42
FILING DATE: 09-404
FILING DATE: 21-NOV-1989
FILING DATE: 21-NOV-1989
FILING DATE: 115-SEP-1989
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Patent No. 5217955

TILLE OF INVESTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG

FITLE OF INVESTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG

FOR BOMBESIN, GRP, LITORIN OR NEUROMEDIN

NUMBER. OF SEQUENCES: 42

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/520,225

FILING DATE: 09-MAX-1990

PRIOR APPLICATION DATA:

APPLICATION NUMBER: 440,039

FILING DATE: 21-W0V-1989

APPLICATION NUMBER: 408,125

FILING DATE: 15-SEP-1989
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Tatle No. 5217955
TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG
OF BOMBESIN, GRP, LITORIN OR NEUROMEDIN
NUMBER OF SEQUENCES: 42
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/520,225
FILING DATE: 09-MAY-1990
PRIOR APPLICATION DATA:
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Pred. No. 1.5e+05;
0; Mismatches 1;
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Pred. No. 1.5e+05;
0; Mismatches 1:
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FILING DATE: 21-NOV-1989
APPLICATION NUMBER: 408,125
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85.7%;
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Matches 6; Conservative
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Best Local Similarity 85.7
Matches 6; Conservative
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5217955-35
FAPPLICANT: aBGGDEN, ARTHUR E.; MOREAU, JACQUES-PIERRE
TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG
RUMBER OF SEQUENCES: 42
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/520,225
FILING DATE: 09-MAY-1990
PRIOR APPLICATION NUMBER: 440,039
FILING DATE: 21-NOV-1989
FILING DATE: 21-NOV-1989
FILING DATE: 15-SEP-1989
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                                                    /note= "The carboxy-terminal
residue comprises an ethyl ester."
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Pred. No. 1.5e+05;
0; Mismatches 1; Indels
                                                                                                                                                                                                      94.7%; Score 36; DB 1; Length 8; 85.7%; Pred. No. 1.5e+05; 1ve 0; Mismatches 1; Indels
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FILING DATE: 09-MAY-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 440,039
FILING DATE: 21-NOV-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: 408,125
FILING DATE: 15-SEP-1989
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Best Local Similarity 85.7%;
Matches 6; Conservative
NAME/KEY: Modified-site
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Best Local Similarity 85./,
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                  CCATION: 8
OTHER INFORMATION:
                                                                                                                                                                                                   Query Match
Best Local Similarity
Matches 6; Conserv
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2 QWAVAHL 8
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5217955-36
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US-08-168-390-11
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APPLICANT: Knight, Martha
APPLICANT: Takahashi, Kazayuki
APPLICANT: Chandrasekhar, Bhaskar
TITLE OF INVENTION: Bombesin/Gastrin Releasing Peptide Antagonists
NUMBER OF SEQUENCES: 16
CORRESPONDENCE ADDRESS:
ADDRESSEE: Sterne, Kessler, Goldstein & Fox
                                                                                                                                                                                                                                                                                                         PAPLICANT: aBOGDEN, ARTHUR E.; MOREAU, JACQUES-PIERRE
TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG
BOMBESIN, GRP, LITORIN OR NEUROMEDIN
NUMBER OF SEQUENCES: 42
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/520,225
FILING DATE: 09-MAY-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 440,039
FILING DATE: 21-MOY-1989
FILING DATE: 21-MOY-1989
FILING DATE: 11-SEP-1989
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Pred. No. 1.5e+05;
0; Mismatches 1; Indels
                                                                                                           94.7%; Score 36; DB 6; Length 9; 85.7%; Pred. No. 1.5e+05; ive 0; Mismatches 1; Indels
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APPLICATION NUMBER: US/08/168,390
FILING DATE: Herewith
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ...ureSSE: Sterne, Kessler, Goldstein & Fox STREET: 1100 New York Avenue, Suite 600 CITY: Washington STATE: DC COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ZIP: 20005
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-08-168-390-11
; Sequence 11, Application US/08168390
Patent No. 5620955
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NAME: Goldstein, Jorge A.
REGISTRATION NUMBER: 29,0
; FILING DATE: 15-SEP-1989; SEQ ID NO:15: LENGTH: 95217955-15
                                                                                                         Query Match
Best Local Similarity 85.7
Matches 6; Conservative
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Best Local Similarity
Matches 6; Conserv
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; LENGTH: 9
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                                                                                                                                                                                                                                                                                                                                                                                                                        /note= "The carboxy-terminal
residue comprises an ethyl ester."
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY: U.S.A.
ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: IBM PS/2 Model 50Z or 55X
COMPUTER: IBM PS/2 Model 50Z or 55X
OPERATING SYSTEM: IBM P.C. DOS (Version 3.30)
SOFTWARE: WordPerfect (Version 5.0)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/337,127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
APPLICANT: Coy, David H.
APPLICANT: Coy, David H.
APPLICANT: Moreau, Jacques-Pierre
APPLICANT: Kim, Sun H.
TITLE OF INVENTION: OCTAPEPTIDE BOMBESIN
TITLE OF INVENTION: ANALOGS
NUMBER OF SEQUENCES: 11
CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson
STREET: 225 Franklin Street
REFERENCE/DOCKET NUMBER: 0871.0040001
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 371-2600
TELEFAX: (202) 371-2540
TELEX: 248636 SSK
INPORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
LENGTH: 8 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/779,039
APPLICATION NUMBER: 07/502,438
FILING DATE: 03/30/90
APPLICATION NUMBER: 07/397,169
FILING DATE: 08/21/89
APPLICATION NUMBER: 07/376,555
FILING DATE: 07/07/89
APPLICATION NUMBER: 07/376,555
FILING DATE: 07/07/89
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FILINN DAPE: 03/02/89
APPLICATION NUMBER: 07/282,328
FILING DATE: 12/09/88
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APPLICATION NUMBER: 07/257,998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 9, Application US/08337127
Patent No. 5877277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             92.1%;
                                                                                                                                                                                                                                                               NAME/KEY: Modified-site
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CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                                                                                        OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                        OTHER INFORMATION:
OTHER INFORMATION:
                                                                                                                                                                                           TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
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APPLICANT: aBOGDEN, ARTHUR E.; MOREAU, JACQUES-PIERRE; TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG; OF BOMBESIN, GRP, LITORIN OR NEUROMEDIN
NUMBER OF SEQUENCES: 42
                                                                                                                                                                                                                                                                                                                                                                      1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 1, Application US/07619747B
Fatent No. 5244883
GENERAL INFORMATION:
APPLICANT: Cai, Ren Zhi
APPLICANT: Cal, Nen Zhi
TITLE OF INVENTION: Andrew V.,
TITLE OF INVENTION: Antagonists
NUMBER OF SEQUENCES: 40
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Andrew V. Schally
STREET: 5025 Kawanne Avenue
                                                                                                                                                                                                                                                                                                                                92.1%; Score 35; DB 6; I
85.7%; Pred. No. 1.5e+05;
Live 0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Behr, Omri M.
REGISTRATION NUMBER: 22,940
REFRENCE/DOCKET NUMBER: SHAL3.0-011
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECHMONE: (908)494-5240
mpt.RFAX: 1-908-494-0428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: 360K Diskette
COMPUTER: 1BM PC
OMPROTER: 1BM PC
OPERATING SYSTEM: DOS 5.0
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
CLASSIFICATION: 514
                                                                                       CURRENT APPLICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: US/08/520,225
FILING DATE: 09-MAY-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 440,039
FILING DATE: 21-NOV-1989
APPLICATION NUMBER: 408,125
FILING DATE: 15-SEP-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION DATA:
APPLICATION NUMBER: NO. 5244883e
FILING DATE: N/A
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEFAX: 1-908-494-0428
TELEX: 511642 BEPATEDIN
INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 85.7
Matches 6; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CITY: Metairie
STATE: Louisiana
COUNTRY: USA
ZIP: 70002
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   5217955
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5217955-32
; PATENT NO. 5217955
; PATENT NO. 5217955
; PATENT NO. 5217955
; TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG
; OF BOMBESIN, GRP, LITORIN OR NEUROMEDIN
NUMBER OF SEQUENCES: 42
CURRENT APPLICATION DATA:
; APPLICATION NUMBER: 105/08/520,225
; FILING DATE: 09-MAY-1990
; PRIOR APPLICATION NUMBER: 440,039
; FILING DATE: 21-NOV-1989
; FILING DATE: 12-NOV-1989
; FILING DATE: 15-SEP-1989
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        92.1%; Score 35; DB 6; Length 8; 85.7%; Pred. No. 1.5e+05; Live 0; Mismatches 1; Indels
       Query Match 92.1
Best Local Similarity 85.7
Matches 6; Conservative
10/14/88
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CTHER INFORMATION:
CTHER INFORMATION:
CTHER INFORMATION:
CTHER INFORMATION:
CTHER INFORMATION:
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Best Local Similarity
Local 6; Conserve
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TOPOLOGY: linear
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2 QWAVGHL 8
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RESULT 11 5217955-34

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                                                                                                                                                           GENERAL INFORMATION:
APPLICANT: Cai, Ren Zhi
APPLICANT: Schally, Andrew V,
TILE OF INVENTION: No. 5244883apeptide Bombesin
TITLE OF INVENTION: Antagonists
NUMBER OF SEQUENCES: 40
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Andrew V. Schally
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OTHER INFORMATION: Position 1 is 5F-D-Trp
OTHER INFORMATION: Position 8 is a reduced
OTHER INFORMATION: isostere of named aminoacid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 35; DB 1; Pred. No. 1.5e+05;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: No. 5244883e
FILING DATE: NA
APPLICATION NUMBER: No. 5244883e
FILING DATE: NA
APPLICATION NUMBER: ATONNY, AGGNT INFORMATION:
NAME: Behr, Omri M.
REGISTRATION NUMBER: 22,940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE/DOCKET NUMBER: SHAL3.0-011
TELECOMMUNICATION INFORMATION:
TELEPHONE: (908)494-5240
TELEFRAX: 1-908-494-0428
                                                                                                                                                                                                                                                                                                    E: Dr. Andrew V. Schally
5025 Kawanne Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 5, Application US/07619747B
Sequence No. 5244883
GENERAL INFORMATION
APPLICANT: Cai, Ren Zhi
APPLICANT: Schally, Andrew V.,
                                                                                                                       Sequence 4, Application US/07619747B Patent No. 5244883
                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDIUM TYPE: 360K Diskette
COMPUTER: IBM PC
OPERATING SYSTEM: DOS 5.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELERAX: 1-908-494-0428
TELEX: 511642 BEPATEDIN
INFORMATION FOR SEQ ID NO: 4
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 92.1
Best Local Similarity 85.7
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: AMINO
STRANDEDNESS: Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY: Unknown MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY: USA
ZIP: 70002
COMPUTER READABLE FORM:
MEDIUM TYPE: 360K Di
                                                                                                                                                                                                                                                                                                                                                                   STATE: Louisiana
                                                                                                                                                                                                                                                                                                                                                Metairie
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US-07-619-747B-5
                                                                                    RESULT 14
US-07-619-747B-4
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                                                                                                                     92.1%; Score 35; DB 1; Length 9; 85.7%; Pred. No. 1.5e+05; ive 0; Mismatches 1; Indels
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; FEATURE:
; OTHER INFORMATION: Position 8 is a reduced
; OTHER INFORMATION: isostere of named aminoacid
US-07-619-7478-1
                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Cai, Ren Zhi
APPLICANT: Schally, Andrew V.,
APPLICANT: Schally, Andrew V.,
TITLE OF INVENTION: No. 524483apeptide Bombesin
TITLE OF INVENTION: Antagonists
NUMBER OF SEQUENCES: 40
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Andrew V. Schally
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Position 1 is D-Trp
Position 8 is a reduced
isostere of named aminoacid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: 360K Diskette
COMPUTER: 180 FC
OMPUTER: IBM PC
OMPRARE: WP 5.1
CURRENT APPLICATION DATA:
RAPLICATION UNBER: US/07/619,747B
FILING DATE: 19901129
CLASSIFICATION: 514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SHAL3.0-011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR APPLICATION DATA:
APPLICATION NUMBER: No. 5244883e
FILING DATE: N/A
APPLICATION NUMBER:
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Behr, Omri M.
REGISTRATION NUMBER: SHAL3.0-01
TELECOMMUNICATION:
TELECOMMUNICATION:
                                                                                                                                                                                                                                                                                                                                            Sequence 2, Application US/07619747B Patent No. 5244883 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STREET: 5025 Kawanne Avenue
CITY: Metairie
STATE: Louisiana
21P: 70002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 92.1%;
Best Local Similarity 85.7%;
Matches 6; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEPHONE: (908)494-5240
TELEFAX: 1-908-494-0428
TELEX: 511642 BEPATEDIN
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                  Ouery Match
Best Local Similarity 85...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRANDEDNESS: Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOLECULE TYPE: peptide
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OTHER INFORMATION:
OTHER INFORMATION:
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2 QWAVGHL 8
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Gaps

0

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us-09-630-333-3.rai

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TITLE OF INVENTION: No. 5244683apeptide Bombosin
TITLE OF INVENTION: Antagonists
NUMBER OF SEQUENCES: 40
CORRESPONDENCE ADDRESS:
ADDRESSEE: 5025 Kawanne Avenue
STREET: 5025 Kawanne Avenue
CITY: Metairie
STREET: 5025 Kawanne Avenue
CITY: Metairie
STREET: 5002

COMPUTER: USA

ZIP: 70002

COMPUTER: BADABLE FORM:
MEDIUM TYPE: 360K Diskette
COMPUTER: BAP 5.1

COMPUTER: WE 5.1

FILING DATE: 19901129

CLASSIFICATION NUMBER: No. 5244883e

FILING DATE: 19901129

CLASSIFICATION NUMBER: SHAL3.0-011

FILING DATE: WA A PELICATION NUMBER: SHAL3.0-011

TELECOMONICATION INFORMATION:
NAME: Behr. Omri M. TRECOMONICATION INFORMATION:
TELECAMONICATION INFORMATION:
TELECAMONICATION INFORMATION:
TELECAMONICATION INFORMATION:
TELECAMONICATION INFORMATION:
TELECAMONICATION INFORMATION:
TELECAMONICATION FOR SED ID NO: 5:
SEQUENCE CHARACTERISTICS:
LENGTH: 9

TYPE: AMINO
STRANDEDNESS: UNKNOWN
MOLECULE TYPE: PEPTION

COTHER INFORMATION: POSITION 8 is a reduced

CHER INFORMATION: position 8 is a reduced

CTHER INFORMATION: isostere of named aminoacid

CHER INFORMATION: isostere of named aminoacid

CHER INFORMATION: isostere of named aminoacid
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Search completed: October 25, 2001, 11:23:56 Job time: 269 sec

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Gaps 0;

Query Match 92.1%; Score 35; DB 1; Length 9; st Local Similarity 85.7%; Pred. No. 1.5e+05; Atches 6; Conservative 0; Mismatches 1; Indels

Run on:

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A Adams M.D., Celniker S.E., Holf R.A, Evans C.A., Gocayne J.D.,
Amanatides P.G., Scherer S.E., Li P.W., Hoskins R.A., Galle R.E.,
A Adams M.D., Celniker S.E., Holf R.A, Hoskins R.A., Galle R.E.,
RA Gorge R.A. Lewis S.E., Richards S., Ashburner M., Henderson S. A.
Sutton G.G., Worthman J.R., Yandall M.D., Zhang O., Chen L.X.,
Brandon R.C., Rogers Y.-H.C., Blazej R.G., Champe M., Pfelifter B.D.,
RA Man K.H., Doyle C., Baxter E.G., Helt G., Nelson C.R., Milklos G.L.G.,
RA Abril J.F., Agbayani A., An H.-J., Andrews-Pfannkoch C., Baldwin D.,
Ballew R.M., Basu A., Baxendale J., Bayraktaroglu L., Beasley E.M.,
Ballew R.M., Cawles P.W., Berman B.P., Bhandari D., Botther P.,
Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottler P.,
Burtis K.C., Busam D.A., Butler H., Cadieu E., Center A., Chandra I.
RA Gerry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
A de Pablos B., Delcher A., Deng Z., Mays A.D., Dew I., Dietz S.M.,
A de Pablos B., Delcher A., Deng Z., Mays A.D., Dew I., Dietz S.M.,
A borson K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,
RA Harris N.L., Harvey D., Heiman T.J., Hernandez J.R., Houck J.,
A Hostin D., Houston K.A., Howland T.J., Wei M.-H., Ibegwan C.,
Alalai M., Kalush F., Karpen G.H., Re Z., Kennison J.A., Ketchum K.A.
A Liasko P., Lei Y., Levitsky A.A., Li J., Li Z., Liang Y., Lin X.
Merkulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi f.
                                                                                                                                                                                    099ybB leishmania
099ybB leishmania
090144 trypanosoma
072284 rhizobium 1
006656 thizobium 1
091694 rhizobium 1
091694 rhizobium e
071753 mycobacteri
                                                                                               Q9w819 influenza b
Q9h1a5 Lomo sapien
Q75213 Lomo sapien
Q9zbb0 sphingomona
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O9p7w8 schizosacch
O9wd73 influenza b
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'nfluenza |
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Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;

Eukaryota; Neoptera; Endopterygota; Diptera; Brachycera; Muscemiorph...

Ephydroidea; Droscphilidae; Droscphila.
                                                                   09w9d1
09w8s -
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09wd76
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Q9w971
                                       Q9wd75
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Last annotation update)
                                                                                                                                                                                                                                                                                 ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                       Created)
                                                                           Q9W8S3
Q9W8S0
Q9W8L9
Q9W1A5
                                                                                                                   075213
Q9ZBB0
Q9XEE0
Q9WYB7
Q9P7W8
                            Q9WD76
Q9WD75
                                               Q9WD74
Q9W9Z1
Q9W9D0
                                                                                                                                                                    Q9WD73
                                                                                                                                                                                                 Q9N144
P72284
O06655
P72288
                                                                                                                                                                             Q9N4D9
Q9GYB8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRAIN=BERKELEY;
MEDLINE=20196006; PubMed=10731132;
                                                                                                                                                                                                                                          Q9FDG4
                                                                                                                              3565
                                                                                                                                                                                                                                                                                                                                                    01-MAY-2000 (TrEMBLrel. 13, 01-MAR-2001 (TrEMBLrel. 16, 01-MAR-2001 (TrEMBLrel. 16,
                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                  IMPL2 PROTEIN.
IMPL2 OR CG15009.
Q9VZF7;
                                                                                                                                                                                                                                                                                                                                 Q9VZF7
RESULT
                                                                                                                                                                                                                                                                                                                         29VZF7
                                                                                                                                                                                                                                                                                                                                           Q9uve4 zygosacchar
Q9p6yl neurospora
Q9fi20 arabidopsis
Q90253 bombina ori
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q9ps30 oncorhynchu
Q9i8z9 carassius a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     099986 homo sapien
09001 leishmania
007711 staphylococ
098784 bacillus ha
033831 thermotoga
09189 escherichia
09180 influenza b
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q9wwt3 pseudomonas
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leishmania
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escherichia
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Q9ui28 homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    pseudomonas
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                                                                           (without alignments)
7.821 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q9v5c9 drosophila
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                   Search time 135.34 Seconds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Description
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09jn79
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        GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                                                                                                               al number of hits satisfying chosen parameters:
                                                                                                                                                                             425026 seqs, 132305027 residues
                                                                  October 25, 2001, 11:27:41;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SUMMARIES
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Maximum Match 100%
Listing first 45 summaries

    protein search, using sw model

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Q9F120
Q90253
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O9WD80
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Q918Z9
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sp_unclassified:*
                                                                                                                                                                                                                                                                                                                                 sp_human:*
sp_invertebrate:*
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                                                                                                                                                                                                                                                                                                                                                                        sp_organelle:*
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length: 2000000000
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sp_bacteria:*
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Match Length DB
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157
211
372
387
396
399
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12::11:
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Maximum DB
                                               OM protein
                                                                                                                             Sequence:
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Result . 8

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Query Match
Best Local Similarity
                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Neurospora crassa.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                140 QWCVGHL 146
                                                                          NCBI_TaxID=4956;
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                                                                                                               STRAIN=CBS 732;
                                                                                                                                                                                                                                                                                                                 2 QWXVGHL 8
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Q9P6Y1
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Q9F120
1D Q9
AC Q9
DT 01
DT 01
DE GE
           Dp
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Mount S.M., Moy M., Murphy B., Murphy L., Muzny D.M., Nelson D.L.,
Nelson D.R., Nelson K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
Palazzolo M., Pittman G.S., Pan S., Pollard J., Puri V., Reese M.G.,
Reinert K., Remington K., Saunders R.D.C., Scheeler F., Shen H.,
Shie B.C., Siden Kiamos I., Simpson M., Skupski M.P., Smith T.,
Na Spier E., Spradling A.C., Stapleton M., Strong R., Sun E.,
Svirskas K., Tector C., Turner R., Venter E., Wang A.H., Wang X.,
Wang Z.-Y., Wassarman D.A., Weinstock G.M., Weissenbach J.,
Milliams S.M., Woodage T., Worley K.C., Wu D., Yang S., Yao Q.A.,
A Zheng X.H., Zhong F.N., Zhong W., Zhou X., Zhu X., Smith H.O.,
A dibbs R.A., Myers E.W., Rubin G.M., Venter J.C.;
The genome sequence of Drosophila melanogaster.",
Schore 29512180000.
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                                                                                                                                                                                   -!- SIMILARITY: TO IMMUNOGLOBULIN AND MAJOR HISTOCOMPATIBILITY COMPLEX DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hang C., Zhang C., Wu T., Peng Y., Gu Y., Zhang L., Jiang C., Li Y., Han Z., Wang Y., Chen Z., Fu G.;

"A novel gene expressed in human adrenal gland.";

submitted (DEC-1998) to the EMEL/GenBank/DDBJ databases.

EMBL; AF110776; AAF14859.1;

InterPro; IPR000061;

InterPro; IPR001601;

SEQUENCE 224 AA; 25474 MW; 8BB11B3FA7804CD3 CRC64;
                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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                                                                                                                                                                                                                                                                                                                          92.5%; Score 37; DB 5; Length 266; 85.7%; Pred. No. 5.1; ive 0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            90.0%; Score 36; DB 4; Length 224; 71.4%; Pred. No. 6.8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                  Pfam; PF00047; 1g; 4. SEQUENCE 266 AA; 29823 MW; FC97694BDFF80F33 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-UJUN-2000 (TrEMBLrel. 14, Last annotation update)
ADRENAL GLAND PROTEIN AD-003.
Homo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (TrEMBLrel. 13, Created)
(TrEMBLrel. 13, Last sequence update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       224 AA
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1; Mismatches
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                                                                                                                                                                                                                  EMBL; AE003480; AAF47866.2;
                                                                                                                                                                                                                                          FlyBase; FBgn0001257; ImpL2.
InterPro; IPR003006; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ouery Match
Best Local Similarity 71.48;
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                       Query Match 92.5
Best Local Similarity 85.7
Matches 6; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TISSUE=ADRENAL GLAND;
                                                                                                                                                                                                                                HSSP; P56276; 1TLK
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | | :|||
| 136 QWVIGHL 142
                                                                                                                                                                                                                                                                                                                                                                                             90 QWVVGHL 96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                           2 QWXVGHL 8
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01-MAY-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q9UI28
Q9UI28;
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Q9UI28
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                                                                                                                                                                                                                                    Sychrova H., Braun V., Potier S., Souciet J.L.,
"Genomic organization of Pichia sorbitophila and Zygosaccharon ress "Genomic comparison with Saccharomyces cerevisiae.";
Submitted (DEC-1998) to the EMBL/GenBank/DDBJ databases.
EMBL, Y18560; CAB62288.1; -.
Hypothetical protein.
SEQUENCE 232 AA; 26369 MW; 43CDB32A6ED7F6B4 CRC64;
                                                    Zygosaccharomyces rouxii (Candida mogii).
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
Saccharomycetales; Saccharomycetaceae; Zygosaccharomyces.
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SordarBales; Sordariaceae; Neurospora.
NCBL_TaxID=5141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 36; DB 3; Length 232;
Pred. No. 7.1;
0; Mismatches 1; Indels
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SEQUENCE FROM N.A.
SCHUILE U., Aign V., Hoheisel J., Brandt P., Fartmann B.,
Schulte G., Mowes H.W., Mannhaupt G.;
Submitted (APR-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 3; Length 256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    German Neurospora genome project;
Submitted (APR-2000) to the EMBL/GenBank/DDBJ databases.
EMBL, AL353820; CAB88603.1;
InterPro; IFR01601;
SEQUENCE 256 AA; 27789 WW; 5251FRC58B6BDDD9 CRC64;
01-JUN-2000 (TrEMBLrel. 14, Last annotation update) HYPOTHETICAL 26.4 KDA PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-0CT-2000 (TrEMBLrel. 15, Created)
01-0CT-2000 (TrEMBLrel. 15, Last sequence update)
01-MRR-2001 (TrEMBLrel. 16, Last annotation update)
CONSERVED HYPOTHETICAL PROTEIN.
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09F120;
01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
GENOMIC DNA, CHROMOSOME 5, P1 CLONE:MFC16.
Arabidopsis thaliana (Mouse-ear cress).
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Pred. No. 7.8;
0; Mismatches
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SEQUENCE FROM N.A.
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182 QWVLGHL 188
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                                                           SEQUENCE L. M. SECONDERA;
MEDLINE-99397451; PubMed-10470850;
MEDLINE-99397451; PubMed-10470850;
MEDLINE-99397451; PubMed-10470850;
Miyajima N., Tabata S.; Asto S., Nakamura Y., Asamizu E., Kotani H.,
Miyajima N., Tabata S.; Arabidopsis thaliana chromosome 5. IX.
"Structural analysis of Arabidopsis thaliana chromosome 5. IX.
Sequence features of the regions of 1,011,550 bp covered by seventeen pl and TAC clones.",
DNA Res. 6:183-195(1999).
EMBL; AB017065; BAB09152.1; -
CEOUTHOUS 252 AA; 28622 MW; F93F8EE657D284B2 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                           Bombina orientalis (Oriental fire-bellied toad).
Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Archeobatrachia; Bombinatoridae; Bombina.
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Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosids II; Brassicales; Brassicaceae; Arabidopsis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Nagalla S.R., Barry B.J., Falick A.M., Gibson B.W., Taylor J.E., Dong J.Z., Spindel E.R.; "There are three distinct forms of bombesin. Identification of
                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .;
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12;
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Last annotation update)
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01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
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                                                                                                                                                                                                                                                                                                                                          119 AA.
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0; Mismatches
                                                                                                                                                                                                                                  1; Mismatches
                                                                                                                                                                                                          Score 35;
Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         the frog Bombina orientalis.";
J. Biol. Chem. 271:7731-7737(1996).
EMBL: U49450; AAC59784.1; -.
InterPro; IPR000874; -.
Pfam: PF02044; Bombesin; 1.
PROSITE; PS00257; BOMBESIN; 1.
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                                                                                                                                                                                                          87.5%;
71.4%;
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                                                                                                                                                                                                                                  5; Conservative
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Pest Local Similarity
Atches 5; Conserv
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Best Local Similarity
Matches 5; Conserv
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                                                         SEQUENCE FROM N.A.
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                                 NCBI_TaxID=3702;
                                                                                                                                                                                                                                                        2 QWXVGHL 8
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51 QWAVGH 56
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Q9V5C9;
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RX ATAIN-EERKELEY;
RA Admanatides C. C. In P.W., Hoskins R.A., Galle R.I.,
Admanatides P.G., Scherer S.E., Holf E. R., Hoskins R.A., Galle R.I.,
Admanatides P.G., Scherer S.E., Holf E. Ashburner M., Henderson S.N.,
Sutton G.G., Wortman J.R., Yandell M.D., Zhang O., Chen L.X.,
Brandon R.C., Rogers Y.-H.C., Blazel R.G., Nelson C.R., Miklos G.L.G.,
RA Abril J.F., Agbayani A., Baxendale J., Bayraktaroglu L., Beasley E.M.,
Ballew R.M., Baulu M., Baxendale J., Bayraktaroglu L., Beasley E.M.,
Ballew R.M., Bach M.P., Buckd J., Bayraktaroglu L., Beasley E.M.,
Ballew R.M., Selos P.V., Berman B.P., Bhandari D., Bolshakov S.,
RA Beson K.Y. Benos P.V., Berman B.P., Bhandari D., Bolshakov S.,
Borkova D., Botcher A., Duckd H., Cadleu E., Center A., Chandra I.,
RA Durbin K.J., Evangelista C. C., Perraz C., Perriera S., Punkov B.C., Dunn P.,
RA Durbin K.J., Evangelista C.C., Ferraz C., Ferraz C., Perriera S., Fleischman W.,
RA Durbin K.J., Evangelista C.C., Ferraz C., Ferraz C., Perriera S., Eleischman W.,
RA Glodek A., Gong F., Gornell J.H., Gul Z., Guban P., Harris M.
Allahi M., Kalush F., Karpen G.H., Ke Z., Guban P., Harris M.
Allahi M., Kalush F., Karpen G.H., Ke Z., Guban P., Harris M.
Allahi M., Kalush F., Karpen G.H., Ke Z., Guban P., Harris M.
Allahi M., Kalush F., Karpen G.H., Ke Z., Guban P., Harris M.
Allahi M., Kalush F., Karpen G.H., Ke Z., Guban P., Harris M.
Allahi M., Kalush F., Karpen G.H., Ke Z., Guban P., Harris M.
Allahi M., Kalush F., Karpen G.H., Ke Z., Gubar P., Harris M.
Allahi M., Kalush F., Karpen G.H., Ke Z., Gubar W., McRoberson D.L.
Allason D.R., Moly M., Murphy B., Murphy L., Murany D.M., Nelson D.L.
Allason D.R., Milking M.V., Mobarry C., Morriss J., Mosherson D.
Allason D.R., Wellamos I., Simpson M., Stupski M.P., Smith T.,
Spirskas R., Tector C., Turner E., Wen S., Pollader E., Spealer E., Spradling A.C., Stapleton M., Stuppi G., Zhoo Q., Zhon X.,
Allama S.M., Woodage T., Worley K.C., Wu D., Yang G., Zhoo Q., A.,
Allama S.M., Woodage T., Worley K.C., Wu D., Yang G., Zhoo Q., Zhon Q.,
Allaliams 
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Drosophila melanogaster (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleustumu;
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01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-UN-2000 (TrEMBLrel. 14, Last annotation update)
GASTAIN-RELEASING PEPPIDE, GRP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5;
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InterPro; IPR001601; -.
SEQUENCE 276 AA; 30601 MW
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71.4%;
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Best Local Similarity 71.4.
5; Conservative
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Pseudomonas
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Q9HVL9;
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                                                           Jensen J., Conlon J.M.;
"Isolation and primary structure of gastrin-releasing peptide from a teleost fish, the trout (Oncorhynchus mykiss).";
Peptides 13:995-999(1992).
InterPro: IPR000874; -..
Pfam: PR02044; Bombesin: 1.
SEQUENCE 23 AA; 2479 MW; 94CD79F70E3DB637 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                              Carassius auratus (Goldfish).

Carassius auratus (Goldfish).

Actinopterygii, Neopterygii; Teleostei; Euteleostei; Ostariophysi; Cypriniformes; Cyprinidae; Cyprininae; Carassius.
                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.

MEDLINE=20336817; PubMed=10876046;

Wolkoff H., Peyon P., Lin X., Peter R.E.;

"Molecular cloning and expression of cDNA encoding a brain bombesin/gastrin-releasing peptide-like peptide in goldfish.";

Peptides 21:639-648(2000).

EMBL; AF111028; AAF82387.1; -.
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0
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0
Actinopterygii; Neopterygii; Teleostei; Euteleostei;
Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
NCBL_TaxID=8022;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  82.5%; Score 33; DB 13; Length 157;
83.3%; Pred. No. 20;
                                                                                                                                                                     Query Match 82.5%; Score 33; DB 13; Length 23; Best Local Similarity 83.3%; Pred. No. 2.8; Matches 5; Conservative 0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GASTRIN-RELEASING PEPTIDE DD927EE19FD43117 CRC64;
                                                                                                                                                                                                                                                                                                       01-0cT-2000 (TrEMBLrel. 15, Created)
01-0CT-2000 (TrEMBLrel. 15, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
GASTRIN-RELEASING PEPTIDE PRECURSOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-NOV-1999 (TrEMBLrel. 12, Created)
01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
HYPOTHETICAL 23.6 KDA PROTEIN (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Mismatches
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                                                    MEDLINE=93126164; PubMed=1480521;
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157 GF
18201 MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                        PRELIMINARY;
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: 157 AA;
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Matches 5; Conserv
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SIGNAL
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ID 09
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Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pseudomonas aeruginosa. Bacteria; Proteobacteria; gamma subdivision; Pseudomonadaceae:
Bacteria; Proteobacteria; gamma subdivision; Pseudomonadaceae;
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Pred. No. 47;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1; Indels
                                                                                                                                                                "Aerotaxis receptor of Pseudomonas putida PRS2000.";
Submitted (JUL-1998) to the EMBL/GenBank/DDBJ databases.
EMBL; AF079997; AAD22404.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          23566 MW; F113AF955610BBE5 CRC64;
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Last annotation update)
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PROSITE; PS00902; GLUTAMATE_5_KINASE; UNKNOWN_1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2;
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Pred. No. 27;
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MEDLINE=20437337; PubMed=10984043;
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Nature 406:959-964(2000).
EMBL; AE004870; AA607953.1; -.
InterPro; IPR001048; -.
InterPro; IPR001057; -.
InterPro; IPR002478; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               82.5%;
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71.4%;
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                                                                                                                                            Nichols N.N., Harwood C.S.;
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Pfam; PF01472; PUA; 1.
                                                                                                                                                                                                                                     InterPro; IPR000014; -.
InterPro; IPR000160; -.
InterPro; IPR001610; -.
InterPro; IPR001610; -.
Pfam; PF00785; PAC; 1.
Pfam; PF00989; PAS; 1.
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SMART; SM00267; DUF1; 1
                                                                                                                                                                                                                                                                                                                                                                                                                           Hypothetical protein.
NON_TER 211 21
SEQUENCE 211 AA; 2
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Best Local Similarity
'... 5; Conserv?
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Best Local Similarity
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                                                                                           SEQUENCE FROM N.A.
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                                              NCBI_TaxID=303;
                                                                                                                      STRAIN-PRS2000;
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Matches

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OCCUPATION

95N79 RESULT 12 Q9JN79

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Nezu J., Oku A., Jones M.H., Shimane M.; "Identification of two novel human putative serine/threonine kinases, VRKI and VRK2, with structural similarity to vaccinia virus BIR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Euglenozoa; Kinetoplastida; Trypanosomatidae; Lejehmania.
NCBL_TaxID=5664;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Masuy D., Purnelle B., Goffeau A., Ivens A.C., Lawson D., Quail M., Rajandream M.A., Barrell B.G.;
Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
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                                                                                                                                     L KINGSES.; 5. Canomics 45:327-331(1997).

Canomics 45:327-331(1997).

1. SIMILARITY: TO THE SER/THR FAMILY OF PROTEIN KINASES.

REMBL; AB000449; BAA19108.1; -.

R HSSP; Q06486; 1CKI.

R InterPro; IPR000719; -.

R Pfam; PF00069; pkinase. .

R PROSITE; PS00107; PROTEIN_KINASE_ATP; UNKNOWN_1.

R PROSITE; PS00101; PROTEIN_KINASE_ATP; UNKNOWN_1.

R PROSITE; PS00108; PROTEIN_KINASE_ATP; UNKNOWN_1.

R PROSITE; PS00108; PROTEIN_KINASE_ATP; 1.

R PROSITE; PS00108; PROTEIN_KINASE_ATP; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=98116435; PubMed=9477341;
Ivens A.C., Lewis S.M., Bagherzadeh A., Zhang L., Chan H.M.,
Smith D.F.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "A physical map of the Leishmania major Friedlin genome.";
                                                                                                                                                                                                                                                                                                                                                                                                                               4; Length 396;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       82.5%; Score 33; DB 5; Length 399; 57.1%; Pred. No. 51;
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PROSITE; PS00044; HTH_LYSR_FAMILY; UNKNOWN_1.
PROSITE; PS00215; MITOCH_CARRIER; UNKNOWN_2.
SEQUENCE 399 AA, 43755 MW; A3D4E510517865C8 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
MITOCHONBRIAL CARRIER PROTEIN.
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Pred. No. 51;
0; Mismatches
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                                                    MEDLINE=98008921; PubMed=9344656;
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EMBL; AL122012; CAB58416.1; -
InterPro; IPR000847; -.
InterPro; IPR001993; -.
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ilarity 71.4%;
Conservative
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Matches 4; Conservative
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Best Local Similarity
Matches 5; Conserv
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                   SEQUENCE FROM N.A.
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                                      TISSUE=LIVER
                                                                                                                             kinase.";
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   proteins
                                                                                                                                                                                                                                                                                                                                                    Actinomycetales; Streptomycineae; Streptomycetaceae; Streptomyces.
NCBI_TaxID=1902;
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Sukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Chater K.F., Bruton C.J.;
"Resistance, regulatory and production genes for the antibiotic methylenomycin are clustered.";
EMBO J. 4.1893-1897(1985).
EMBL, AJ276673; CABBS78.1; -.
InterPro; IPR001155; -.
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"Nucleotide sequence analysis reveals similarities between particular methylenomycin A resistance in Streptomyces and tetracycline resistance in eubacteria.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 2; Length 387;
49;
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Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Streptomyces coelicolor A3(2).";
Submitted (MAR-2000) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                Bacteria; Firmicutes; Actinobacteria; Actinobacteridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               387 AA; 40974 MW; 0149B42D0F6B90A3 CRC64;
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Last annotation update)
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Last annotation update)
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MEDLINE=85284984; PubMed=2992952;
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83.3%;
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                                                                                                                                                                                                 01-OCT-2000 (TrEMBLrel. 15, 01-OCT-2000 (TrEMBLrel. 15, 01-MAR-2001 (TrEMBLrel. 16,
                                                                                                                                                                                                                                                           PUTATIVE ENOYL REDUCTASE.
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5; Conservative
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Best Local Similarity
Matches 5; Conserv
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PLASMID=PG01;
MEDIATE=932322; PubMed=7687249;
MOTIONE=932322; PubMed=7687249;
MOTION T.M., Edton D.M., Johnston J.L., Archer G.L.;
"DNA sequence and units of transcription of the conjugative transfer gene complex (frs) of Staphylococcus aureus plasmid pG01.";
J. Bacteriol. 175:4436-4447(1993).
                                                                                                                       01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
DNA TOPOISOMERASE I (EC 5.99.1.2) (OMEGA-PROTEIN) (RELAXING ENZYME)
(UNTWISTING ENZYME) (SWIVELASE).
Staphylococcus aureus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Complete nucleotide sequence of pSK41: evolution of staphylococcal conjugative multiresistance plasmids.";

Conjugative multiresistance plasmids.";

Bacteriol. 180:4350-4359(1998).

EMBL: L11998. AAA71960.1;

EMBL: AF051917; AAC61961.1;

InterPro; IPR000388;

InterPro; IPR000388;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PLASMID=BSV41;

BDELINE_94123990; PubMed=8293396;
Firth N., Ridgeway K.P., Byrne M.E., Fink P.D., Johnson L., Paulsen I.T., Skurray R.A.;

Fanalysis of a transfer region from the staphylococcal conjugative plasmid pSK41 ";

Gene 136:13-25(1993).
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PLASHID-PSV41;
MEDLINE-98389645; PubMed-9721269;
Berg T., Firth N., Apisiridej S., Hettiaratchi A., Leelaporn A., Skurray R.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pfam; PF01131; Topoisom_bac; 1.
Pfam; PF01131; Topoisom_bac; 1.
Pfam; PF01396; zf-C4_Topoisom; 1.
PR03TTE; PS00396; TOPOISOMERASE_I_PROK; UNKNOWN_1.
SMART; SM00493; TOPRIM; 1.
Isomerase; Topoisomerase; DNA-binding; Plasmid.
SEQUENCE 700 AA; 80742 MW; 1BB6BF2F2DB6142D CRC64;
                                                                                                                                                                                                                                                   Plasmid pG01, and Plasmid pSV41.
Bacteria; Firmicutes; Bacillus/Clostridium group;
Bacillus/Staphylococcus group; Staphylococcus.
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131 QWTLGHI 137
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Gaps ; 0 Score 33; DB 2; Length 700; Pred. No. 90; 1; Indels 0; Mismatches 82.5%; 83.3%; Conservative Query Match Best Local Similarity Matches 5; Conservat

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BOML_PSEGU
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Gapop 10.0 , Gapext 0.5
        GenCore
Copyright (c) 1993
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Bukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostumu;
Amphibia; Batrachia; Anura; Archeobatrachia; Bombinatoridae; Howbina.

NCBI_TaxID-8348, 8345;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         Alytes obstetricans (Midwife toad).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostoa;
Amphibia; Batrachia; Anura; Archeobatrachia; Discoglossidae; Alytes.
NCBI_TaxID=8443;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Erspamer V., Erspamer G.F., Mazzanti G., Endean R.;
"Active peptides in the skins of one hundred amphibian species 1.0m
Australia and Papua New Guinea.";
-Comp. Biochem. Physiol. 77C:99-108(1984).
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Pred. No. 0.078;
0; Mismatches 1; Indels
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D3C4E4D3AF129666 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                    01-NOV-1988 (Rel. 09, Created)
01-FEB-1994 (Rel. 28, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
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01-FEB-1991 (Rel. 17, Last sequence update)
01-FEB-1995 (Rel. 31, Last annotation update)
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Bombina variegata (Yellow-bellied toad), and
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                                                                                                                                                                                                                                                                                                                                                      14 AA
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                     YBJG_ECOLI
AQP6_HUMAN
PPT_RAT
                                                                      PPT_MOUSE
PO14_NASVI
VE2_HPV17
                                                                                                                          VEZ_HPV37
FIXN_AZOCA
TOP3_VIBCH
TOP3_ECOLI
                                                                                                                                                                                                        rop3_yeast
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MEDLINE=84131098; Pubmed=6141890;
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MEDLINE-90242964; PubMed-2335218;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     InterPro; IPR000874; -. PP6204; Bombesin; 1. PR051TE; Bombesin; 1. Bombesin family; Amidation.
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85.7%;
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Best Local Similarity 85.7
Matches 6; Conservative
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IML2_DROME
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SIGNAL
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IML2_DROME
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"Cloning of cDNAs encoding amphibian bombesin: evidence for the
relationship between bombesin and gastrin-releasing peptide.";
proc. Natl. Acad. Sci. U.S.A. 8719813-9817(1990).
-!- FUNCTION: STIMULATES SMOOTH MUSCLE CONTRACTION. ROLE IN INDUCTION
OF HYPOTHERMIA, STIMULATION OF DNA REPLICATION AND RELEASE OF MANY
                                                                                                                                                                                                                             Bombina orientalis (Oriental fire-bellied toad).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Archeobatrachia; Bombinatoridae; Bombina.
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Richter K., Egger R., Kreil G.; "Molecular cloning of a cDNA encoding the bombesin precursor in skin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AMIDATION (G-56 PROVIDE AMIDE GROUP). 9692B50600FAF618 CRC64;
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PYRROLIDONE CARBOXYLIC ACID.
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01-MAY-1991 (Rel. 18, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
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                                                                                                                                                                            SPECIES=B.variegata, and B.bombina;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=91088602; PubMed=2263631;
                                                                                                                                                                                                              MEDLINE=72163516; PubMed=4537042;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               24 B
55 B
42 P
55 A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE; PS00257; BOMBESIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; X52447; CAA36686.1; -.
                                                             of Bombina variegata.";
FEBS Lett. 262:353-355(1990)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pfam; PF02044; Bombesin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  InterPro; IPR000874; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PIR; A01564; BSTD.
PIR; B01564; BSTDY.
PIR; S09095; S09095.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1
42
42
55
107 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BOMBESIN PRECURSOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=8346;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           11 | | | | 48 QWAVGHL 54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2 OWXVGHL 8
                                                                                                                                                      SEQUENCE OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BOMB_BOMOR
P21591;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MOD_RES
MOD_RES
SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
TISSUE SPECIFICITY: LOCALIZED TO THE CUTANEOUS GRANULAR GLANDS IN THE SKIN AND THE BRAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Drosophila melanogaster (Fruit fly).
Bukaryota, Metazoa, Arthropoda; Tracheata; Hexapoda; Insecta;
Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIMARILY EXPRESSED
DEVELOPMENTAL STAGE: FIRST EXPRESSED AT THE CELLULAR BLASTODERM
STAGE AND CONTINUES TO BE EXPRESSED THROUGH SUBSEQUENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          E E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BOMBESIN.
AMIDATION (G-59 PROVIDE AMIDE GROUP).
3A3D84EA2445A44A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INVOLVED IN SOME ASPECT OF CELL ADHESION.
-!- SUBMCELLULAR LOCATION: EXTRACLLULAR STEES INCLUDING THE
-!- TISSUE SPECIFICITY: DETECTED IN SEVERAL SITES INCLUDING THE
- VENTRAL NEUROECTODERM, THE TRACHEAL PITS, THE PHARKIN AND
                                                   -!- SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
                                                                                                                                                                                                                                                                                                                                                                                                                                        Pfan: PF02044; Bombesin; 1.
PROSITE; PS00257; BOMBESIN; 1.
Bombesin family; Amidation; Cleavage on pair of basic residues;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INDUCTION: BY 20-HYDROXYECDYSONE.
SIMILARITY: CONTAINS 2 IMMUNOGLOBULIN-LIKE C2-TYPE DOMAINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OESOPHAGUS, AND SPECIFIC NEURONAL CELL BODIES, WHERE IT IS
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0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; DB 1; Length 119; . 0.57;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-FEB-1995 (Rel. 31, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
NEURAL/ECTODERMAL DEVELOPMENT FACTOR IMP-L2 PRECURSOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          263 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    95.0%; Score 38; 85.7%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-FEB-1995 (Rel. 31, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      13863 MW;
                                                                                                                                                                                                                                                                                                                                                             EMBL; M55255; AAA48551.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPR000874; -.
                                                                                                                                                                                                                                                                                                                                                                                       PIR; A39261; A39261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      119 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ephydroidea; Dros
NCBI_TaxID=7227;
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58
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51 QWAVGHL 57
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Pred. No.

85.78;

Best Local Similarity

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between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                  NEURAL/ECTODERMAL DEVELOPMENT FACTOR IMP-
                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Doignon F., Biteau N., Crouzet M., Aigle M., "The complete sequence of a 19,482 bp segment located on the right arm of chromosome II from Saccharomyces cerevisiae.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Saccharomyces cerevisiae (Baker's yeast).
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
Saccharomycetales; Saccharomycetaceae; Saccharomyces.
                                                                                                                                                                                                                                                                                                                                                                          ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-0CT-1994 (Rel. 30, Created)
01-0CT-1994 (Rel. 30, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
HYPOTHETICAL 26.1 RAA PROTEIN IN POP4-SHM1 INTERGENIC REGION.
YBR26IC OR YBR1729.
                                                                                                                                                                                                                                                                                                                                            Score 37; DB 1; Length 263;
Pred. No. 1.9;
                                                                                                                                                                                                                                                                                                                                                                          1; Indels
                                                                                                                                                                                                                                                                                                    44AADB1B22DD1804 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                66699F37B0013088 CRC64;
                                                                                                                                                                                                              L2.
IG-LIKE C2-TYPE DOMAIN.
IG-LIKE C2-TYPE DOMAIN.
BY SIMILARITY.
BY SIMILARITY.
                                                                                            232 AA
                                                                                                                                                                                                                                                                                                                                                                          0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Yeast 9:189-199(1993).
-!- SIMILARITY: TO S.POMBE SPAC16E8.14C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRT;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN=5288C;
MEDLINE=93220397; PubMed=8465606;
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                                                                                                                                                                                                                                                                                                                                           92.5%;
85.7%;
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                                                                                                                                                                                                                                                                                                    29421
                                                                                                                                                                                                                                                                                                                                                                          6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S0000465; YBR261C.
                                                                                                                                                                                                                             142
247
135
240
173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Hypothetical protein. SEQUENCE 232 AA; 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S32963
                                                                                                                                                                                                                                                                                                 263 AA;
                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                           69
184
76
191
173
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87 QWVVGHL 93
                                                                                                                                                                                                                                                                                                                                                                                                   2 OWXVGHL 8
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P38340;
                                                                                                                                                                                                                                            DOMAIN
DISULFID
                                                                                                                                                                                                                                                                                    VARIANT
SEQUENCE
                                                                                                                                                                                                                                                                     DISULFID
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YB9H_YEAST
                                                                                                                                                                                                                                                                                                                                                                          Matches
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Length 232;

DB 1;

90.0%; Score 36;

Query Match

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                                                                                                                                                                                                                                                                                                                                                                          SECUENCE (METHYLATED VARIANT).
MEDLINE=78003546; Pubmed=908391.
Anastasi A., Montecucchi P.C., Angelucci F., Erspamer V., Endean R.;
"Glu(OMe)3-litorin, the second bombesin-like peptide occurring in
methanol extracts of the skin of the Australian frog Litoria aurea.";
Experientia 33:1289-1289(1977).
-: SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostumi;
Amphibia; Batrachia; Anura; Neobatrachia; Bufonoidea; Myobatrachidae;
Pseudophryne.
  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                          Litoria aurea (Australian frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Neobatrachia; Bufonoidea; Hylidae,
 ..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                Anastasi A., Erspamer V., Endean R.; "Aminoacid composition and sequence of litorin, a bombesin-lik
                                                                                                                                                                                                                                                                                                                          nonapeptide from the skin of the Australian leptodactylid frog
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Methylation.
PYRROLIDONE CARBOXYLIC ACID.
METHYLATION (IN A VARIANT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1; Indels
  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 9;
 ij
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Pred. No. 9.3e+04;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
01-NOV-1995 (Rel. 32, Last annotation update)
PSENDESIN-IATE PEPTIDE L (FG-L).
PSENDOPHYPNE GUENTHERI (Frog).
                                                                                                                                       01-NOV-1988 (Rel. 09, Created)
01-FEB-1994 (Rel. 28, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
                                                                                                                9 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Mismatches
 Mismatches
                                                                                                                                                                                                                                                                                 MEDLINE=75187011; PubMed=1140241;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PIR; S07204; S07204.

PIR; S07205; S07205.

InterPro; IPR000874; -.

PROSITE; PS00257; BOMBESIN; 1.

Bombesin family; Amidation; Me
MOD_RES 1
                                                                                                                                                                                                                                                                                                                                                   Experientia 31:510-511(1975).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       85.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9 AA; 1103 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5; Conservative
 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STANDARD;
                                                                                                                 STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=30349;
                                        139 QWCVGHL 145
                                                                                                                                                                                                                                              NCBI_TaxID=8371;
                         2 QWXVGHL 8
                                                                                                                                                                                                                                                                                                                                        Litoria aurea.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 OWAVGH 7
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P42991;
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9
                                                                                                                LITO_LITAU
                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE
                                                                                                                                                                              LITORIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MOD_RES
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                                                                                       LITO_LITAU
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
Matches
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Gaps

; 0

Length 82;

Euteleostomi; Ranidae; Rana.

MOD_RES

Matches

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MEDLINE-91315477; PubMed=1859413;
Conlon J.M., O'Harte F., Vaudry H.;
"Primary structures of the bombesin-like neuropeptides in frog brain show that bombesin is not the amphibian gastrin-releasing peptide.";
Blochem. Blophys. Res. Commun. 178:226-530(1991).
-1- SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Scyliorhiniae; Scyliorhinus canicula (Spotted dagfish) (Spotted catshark).
Eukaryota; Metazoa; Chordata; Cranlata; Vertebrata; Chondrichtliyes;
Elasmobranchii; Galeomorphii; Galeoidea; Carcharhiniformes;
Scyliorhinidae; Scyliorhinus.
NCBI_TaxID=7830;
                                      (G-59 PROVIDE AMIDE GROUP).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE-88137922; PubMed-3436516;
Conlon J.M., Henderson I.W., Thim L.;
"Gastrin-releasing peptide from the intestine of the elasmobranch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 33; DB 1; Length 10;
Pred. No. 0.56;
                                    AMIDATION (G-59 PROVIDE 09194FFD0E7436DE CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Amphibia; Batrachia; Anura; Neobatrachia; Ranoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AMIDATION. F81FBAE862CDC371 CRC64;
                                                                                                          Score 34; DB 1;
Pred. No. 2.5;
0; Mismatches 1
                                                                                                                                                                                                                                                                                                                                                 01-NOV-1991 (Rel. 20, Created)
01-NOV-1991 (Rel. 20, Last sequence update)
01-APR-1993 (Rel. 25, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-WAR-1989 (Rel. 10, Last sequence update)
01-WAR-1992 (Rel. 21, Last annotation update)
GASTRIN-RELEASING PEPTIDE (GRP).
                                                                                                                                                                                                                                                                                                                    10 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                              Rana ridibunda (Laughing frog) (Marsh frog).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     25 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pred. No. 0.56
0; Mismatches
                   RANATENSIN.
                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro; IPR000874; -. Pfam; PF02044; -. PF02044; Bombesin; 1. PR051TE; PS00257; BOMBESIN; 1. Bombesin family; Amidation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-MAR-1989 (Rel. 10, Created)
                                                                                                          85.0%;
47
58
58
9159 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           82.5%;
83.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10 AA; 1094 MW;
                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                    STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STANDARD;
                                                                                       Ouery Match
Best Local Similarity
These 5; Conserve
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PIR; PQ0177; PQ0177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=8406;
                                                                                                                                                                                                                         51 QWAVGH 56
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TISSUE-Brain;
                                                                                                                                                                                                                                                                                                                                                                                                             NEUROMEDIN C.
                                                                                                                                                                                    2 QWXVGH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 | | | 4 WAVGHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3 WXVGHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GRP_SCYCA
ID GRP_SCYCA
AC P09472;
                                                                                                                                                                                                                                                                                                                  GRP_RANRI
P23260;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FAMILY
               PEPTIDE
MOD_RES
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEOUENCE
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 PROPEP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              10
                                                                                                                                                                                                                                                                                              GRP_RANRI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT
 FF FS
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0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                          Simmaco M., Severini C., de Biase D., Barra D., Bossa F.,
Roberts J.D., Melchiorri P., Erspamer V.;
"Six novel tachykinin- and bombesin-related peptides from the skin of
Peptides 11:299-304(1990).
-!- SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
MEDLINE-88330837; PubMed-2458345;
Krane I.M., Naylor S.L., Helin-Davis D., Chin W.W., Spindel E.R.;
"Molecular cloning of cDNAs encoding the human bombesin-like peptide
neuromedin B. Chromosomal localization and comparison to cDNAs
encoding its amphibian homolog ranatensin.";
J. Blol. Chem. 263:13317-13323(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rana pipiens (Northern leopard frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Neobatrachia; Ranoidea; Ranidae; Rana.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1.
Cleavage on pair of basic residues;
                                                                                                                                                                                                                                                                                                                                                                                                         .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Nakajima T., Tanimura T., Pisano J.J.;
"Isolation and structure of a new vasoactive polypeptide.";
Fed. Proc. 29:282-282(1970).
                                                                                                                                                                                                                                                                         PYRROLIDONE CARBOXYLIC ACID.
                                                                                                                                                                                                                                                                                                                                                                  Score 34; DB 1; Length 13;
Pred. No. 0.45;
                                                                                                                                                                                                                                                                                                                                                                                                         1; Indels
                                                                                                                                                                                                                                                                                           AMIDATION.
D6DE0D24BD98C366 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-NOV-1988 (Rel. 09, Created)
01-NOV-1988 (Rel. 09, Last sequence update)
01-EDC-1998 (Rel. 37, Last annotation update)
RANATENSIN PRECURSOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          82 AA.
                                                                                                                                                                                                                                                                                                                                                                                                       0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                             MEDLINE=90287814; PubMed=2356157;
                                                                                                                                                                                            InterPro; IPR000874; -.
Pfam; PF02044; Bombesin; 1.
PR051TE; PS00257; BOMBESIN; 1.
Bombesin family; Amidation.
                                                                                                                                                                                                                                                                                                                                                                85.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; M21552; AAA49533.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pfam; PF02044; Bombesin; 1.
PROSITE; PS00257; BOMBESIN;
Bombesin family; Amidation;
                                                                                                                                                                                                                                                                                                            13 AA; 1372 MW;
                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IPR000874; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         27
                                                                                                                                                                            PIR; A60409; A60409.
                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
les 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE OF 48-58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=8404
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6 QWAVGH 11
                                                                                                                                                                                                                                                                                                                                                                                                                                        2 QWXVGH 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RANA_RANPI
P08950;
                                                                                                                                                           FAMILY
                                                                                                                                                                                                                                                                                       MOD_RES
SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                  ery Match
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RANA_RANPI
TD RANA_RA
AC 908950
DT 01-NOV
DT 15-DEC
DE RANATE
OC AMPHIB
OC AMPHIB
OX NCBL_T
RN [1]
RP SEQUEN
RX MEDLIN
RA KEADE
RT "MOLEC

; 0

Gaps

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Indels

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NCBI_TaxID=9031;
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                                                                                                                                                                                                                                                                                                                                                                                                                     3 WXVGHL
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SEQUENCE
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                                                                                                SEQUENCE
                                                                                                                                                                           SEOUENCE
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P01294;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    13
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GRP_PIG
   δy
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0
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0
                                                                                                                                                                 Gaps
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                                                                                                                                                                                                                                                                               01-NOV-1988 (Rel. 09, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
GASTRIN-RELEASING PEPTIDE (GRP) [CONTAINS: NEUROMEDIN C (GRP-10)].
                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=83213518; PubMed=6853532;
Reeve J.R. Jr., Walsh J.H., Chew P., Clark B., Hawke D.,
Shively J.E.;
"Amino acid sequences of three bombesin-like peptides from canine
                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
NCBL_TaxID=9615;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        -!- SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN FAMILY.
                                     -!- SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
                                                                                                                                                                 .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
fish, Scyliorhinus canicula (common dogfish).";
Gen. Comp. Endocrinol. 68:415-420(1987).
-!- FUNCTION: GRP STIMULATES GASTRIN RELEASE AS WELL AS OTHER
                                                                                                                                                                                                                                                                                                                                                                                                                  intestine extracts.";
J. Biol. Chem. 258:5582-5588(1983).
-!- FUNCTION: GRP STIMULATES GASTRIN RELEASE AS WELL AS OTHER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 33; DB 1; Length 27;
Pred. No. 1.4;
0; Mismatches 1; Indels
                                                                                                                                             Length 25;
                                                                                                                                                               1; Indels
                                                                                                      AMIDATION.
B735F911B89007F8 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AMIDATION.
9D9317261B7C7D65 CRC64;
                                                                                                                                             ij
                                                                                                                                                                                                                                                     27 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 12

GRP_CHICK

ID GRP_CHICK STANDARD, PRT; 27 AA.

AC P01295;

DT 21-JUL-1986 (Rel. 01, Created)

DT 21-JUL-1986 (Rel. 01, Last sequence update)
                                                                                                                                            Score 33; DB .
Pred. No. 1.3;
                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NEUROMEDIN C.
                                                                                                                                                                                                                                                      PRT;
                                                                                                                                                               ..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;
                                                               InterPro; IPR000874; -. Pfam; PF02044; Bombesin; 1. PROSITE; PS00257; BOMBESIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pfam: PF02044; Bombesin; 1. PROSITE; PS00257; BOMBESIN; 1. Bombesin family; Amidation. PEPTIDE 18 27 NE
                                                                                                                                                                                                                                                                      01-NOV-1988 (Rel. 09, Created)
                             GASTROINTESTINAL HORMONES.
                                                                                                                                                                                                                                                                                                                                                                                                                                               GASTROINTESTINAL HORMONES.
                                                                                                                                          82.5%;
83.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               82.5%;
                                                                                             Bombesin family; Amidation.
                                                                                                               25 AA; 2781 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2889 MW;
                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                     STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           InterPro; IPR000874; -.
                                                                                                                                                                                                                                                                                                                      Canis familiaris (Dog)
                                                                                                                                 Query Match
Best Local Similarity
'-hag 5; Conserv?
                                                       PIR; S06263; S06263.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  27 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3 WXVGHL 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WXVGHL 8
                                                                                                     MOD_RES
SEQUENCE
                                                                                                                                                                                                                                                    GRP_CANFA P08989;
                                              FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MOD_RES
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                  RESULT 11
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                                                                                                                                                                                                                                            GRP_CANFA
DR
DR
FT
SO
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MEDLINE-81164953; PubMed-7215543; McDonald T.J., Joernvall H., Ghatei M., Bloom S.R., Mutt V.; "Characterization of an avian gastric (proventricular) peptide having sequence homology with the porcine gastrin-releasing peptide and the amphibian peptides bombesin and alytesin.";
                                                                                                                        Gallus gallus (Chicken).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleosiomi;
Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Campbell B.J., Young J., Dimaline R., Dockray G.J.;
"Isolation, sequence and biosynthetic significance of a novel fragment of gastrin-releasing peptide from chicken proventriculus.";
Biochim. Biophys. Acta 1048:66-71(1990).
-i- FONCTION: GRP STIMULATES GASTRIN RELEASE AS WELL AS OTHER GASTROINTESTINAL HORMONES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
15-JUL-1999 (Rel. 38, Last annotation update)
GASTRIN-RELEASING PEPTIDE (GRP) (PROVENTRICULAR PEPTIDE) [COMMINIONS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21-JUL-1986 (Rel. 01, Created)
21-JUL-1996 (Rel. 01, Last sequence update)
15-JUL-1999 (Rel. 38, Last anotation update)
GASTRIN-RELEASING PEPTIDE (GRP) [CONTAINS: NEUROMEDIN C (GRP-10)].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla, Suina, Suidae, Sus.
NCBI_TaxID=9823, 10141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -! - SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AMIDATION.
3C121D0118D551C7 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sus scrofa (Pig), and Cavia porcellus (Guinea pig).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 33; DB 1;
Pred. No. 1.4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            27 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NEUROMEDIN C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=90122926; PubMed=2297533;
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MEDLINE=80042433; PubMed=496973;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro; IPR000874; -. Pfam; PF02044; Bombesin; 1. PROSITE; PS00257; BOMBESIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    82.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2842 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEBS Lett. 122:45-48(1980).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bombesin family; Amidation PEPTIDE 18 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STANDARD;
                                                               NEUROMEDIN C (GRP-10)].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PIR; A01563; RHCHA.
PIR; S08150; S08150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           27 AA;
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SEQUENCE OF 18-27
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Search completed: October 25, 2001, 11:28:28 Job time: 476 sec
                                22 WAVGHL 27
            3 WXVGHL 8
                                                                                           NEUB_XENLA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=93324451; PubMed=8101369; Wang Y., Conlon J.M.; Wang Y., Conlon J.M.; Reuroendocrine peptides (NPY, GRP, VIP, somatostatin) from the brain and stomach of the alligator."; Peptides 14:573-579(1993).
-- FUNCTION: GRP STIMULATES GASTRIN RELEASE AS WELL AS OTHER GASTROINTESTINAL HORMONES.
                                                                                                                                                                                                                                                                                                                                                      Gaps
          Minamino N., Kangawa K., Matsuo H.; "Neuromedin C: a bombesin-like peptide identified in porcine spinal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-JUL-1993 (Rel. 26, Created)
10-JUL-1993 (Rel. 26, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
6ASTRIN-RELEASING PEPTIDE (GRP) [CONTAINS: NEUROMEDIN C (GRP-10)].
Alligator mississippiensis (American alligator).
Alricator, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Archosauria; Crocodylidae; Alligatorinae; Alligator.
                                                                                         MEDLINE-88034997; PubMed-3668528; Shaw C., Thim L., Conlon J.M.; Shaw C., Thim L., Conlon J.M.; Primary structure and tissue distribution of guinea pig gastrinreleasing peptide.";
                                                                                                                                      J. Neurochem. 49:1348-1354(1987).
-!- FUNCTION: GRP STIMULATES GASTRIN RELEASE AS WELL AS OTHER GASTROINTESTINAL HORMONES.
-!- SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
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Pred. No. 1.5;
0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                AMIDATION. FA1017260210410F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AMIDATION.
A74DB0487D844963 CRC64;
                                              Biochem. Biophys. Res. Commun. 119:14-20(1984).
                                                                                                                                                                                                                                                                                                                                                                                                                                                            28 AA.
                                                                                                                                                                                                                                                                                                                                                    0; Mismatches
                                                                                                                                                                                                                                                                     NEUROMEDIN C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NEUROMEDIN C.
                                                                                                                                                                         PERILLY.
PIR; A01562; RHPGA.
PIR; A01562; RHPGA.
PIR: A60206; RHPGA.
PIR: P602044; Bombesin; 1.
PROSTE; PS00257; BOMBESIN; 1.
RW Bombesin family; Anidation.
PROFITER 18 27 27 AM.
PROFITER 27 27 AM.
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MEDLINE=84153890; PubMed=6546686;
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PROSITE; PS00257; BOMBESIN; 1.
Bombesin family; Amidation. NE PEPTIDE 19 28 AM MOD_RES 28 28 AM
                                                                                                                                                                                                                                                                                                                             82.5%;
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                                                                                                                                                                                                                                                                                                                                        Best Local Similarity 83.3
Matches 5; Conservative
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Best Local Similarity 83.3
Macches, 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                            STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPR000874;
                                                                                SPECIES=C.porcellus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       28 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE-Stomach;
                                                                                                                                                                                                                                                                                                                                                                                          3 WXVGHL 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                           GRP_ALLMI
P31886;
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SEQUENCE
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GRP_ALLMI
ID GRP_A
AC P318B
DT 01-JU
DT 01-JU
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DE GASTR
OC BURAL
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Gaps

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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Proc. Natl. Acad. Sci. U.S.A. 89:9819-9822(1992).

-!- FUNCTION: MAY BE A GROWTH FACTOR REQUIRED FOR THE HIGH RATE OF CELL DIVISION ENSUING AFTER FERTILIZATION, OR MAY HAVE A ROLE AS A SECRETAGOGUE THAT TRIGGERS THE RELEASE OF STORED COMPONENTS.
-!- TISSUE SPECIFICITY: BRAIN, INTESTINE, AND OVARIES AND EARLY EMBRYOS (STAGES 2 AND 10).
-!- SIMILARITY: BELONGS TO THE BOMBĘSIN/NEUROMEDIN B/RANATENSIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NEUROMEDIN B.
AMIDATION (G-55 PROVIDE AMIDE GROUP).
2CB146BA082A2442 CRC64;
                                                                                                                                                        Xenopus laevis (African clawed frog).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi;
Amphibia; Batrachia, Anura, Mesobatrachia, Pipoidea, Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1.
Cleavage on pair of basic residues;
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"Isolation and sequence of a cDNA encoding the precursor of a
bombesin-like peptide from brain and early embryos of Xenopus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 120;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 1;
                                                                           01-NOV-1995 (Rel. 32, Last sequence update) 15-JUL-1999 (Rel. 38, Last annotation update) NEUROMEDIN B PRECURSOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 33; DB 1
Pred. No. 5.6;
1; Mismatches
120 AA.
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44
54 NE
54 AN
14384 MW;
                                                   32, Created)
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66.7%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pfam; PF02044; Bombesin; 1. PROSITE; PS00257; BOMBESIN; Bombesin family; Amidation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4; Conservative
STANDARD;
                                                                                                                                                                                                                                            Xenopodinae, Xenopus.
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Best Local Similarity
                    P43443;
01-NOV-1995 (Rel.
                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                      NCBI_TaxID=8355;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                52
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                                                                                                                                                                                                                                                                                                                                                             TISSUE-Brain;
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47 QWAIGH
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GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
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using sw model OM protein - protein search, October 25, 2001, 11:25:19 ; Search time 76.25 Seconds (without alignments) 7.992 Million cell updates/sec Run on:

US-09-630-333-4 Title: Perfect score:

1 XQWXVGHL 8 Sequence: BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

219241 segs, 76174552 residues Searched:

1 number of hits satisfying chosen parameters:

219241

length: 0 length: 2000000000 sed Minimum DB s Maximum DB s

summaries Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 su

PIR_68:* Database

1: pir1:* 2: pir2:* 3: pir3:* 4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

CTIMANATIO

ES	Description	bombesin - fire-be	bombesin precursor	bombesin precursor	hypothetical prote	hypothetical prote	litorin I - Austra	bombesin-like pept	ranatensin precurs	neuromedin C - lau	neuromedin C - bov	gastrin-releasing	gastrin-releasing	gastrin-releasing	gastrin-releasing	bombesinlike pepti	gastrin-releasing	gastrin-releasing	gastrin-releasing	gastrin-releasing	gastrin-releasing	leucine transport	hypothetical prote	glutamate 5-kinase	transfer complex p	DNA topoisomerase	exodeoxyribonuclea	hypothetical prote	protein	matrix protein M2
SUMMARIES	ū	BSTD	BSTDY	A39261	S32963	T48787	S07204	A60409	B28945	PQ0177	A60647	S06263	RHPGA	RHGPGA	RHCHA	A47201	147010	A26182	A40922	B26182	A42437	ORECLH	H86012	G83074	A56976	C84073	NCECXV	A85934	MFIV2	MFIVB2
	DB	1	Н	7	7	N	~	~	7	7	7	7	Н		7	7	7	7	7	П	7	_	7	7	7	7	Н	7	7	П
	Query Match Length	14	107	119	232	256	σ	13	82	10	10	25	27	27	27	120	134	138	147	148	155	308	308	372	700	721	1122	1122	195	195
d	Query Match	95.0	95.0	95.0	90.0	90.0	85.0	85.0	85.0	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.2	\sim	2	N	82.5	80.0	80.0
	Score	38	38	38	36	36	34	34	34	33	33	33	33	33				33		33	33	33	33	33	33	33	33	33	32	32
	Result No.	-	7	က	4	5	9	7	80	σ	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	56	27	28	53

matrix protein M2	matrix protein M2	alphaarabinofur	hypothetical prote	litorin 2 Glu - Au	probable nitrite r	DNA topoicomerase	RNA vira polymera	hypothetical prote	genome pulyprotein	hypothetical prote	probable bacitraci	hypothetical prote	probable methyltra	hypothetical prote	palmitoy?-protein
MFIV2C	MFIV2W	G72395	T50315	S07205	B70682	G64068	B43963	S13553	S16449	T03977	A64822	E85594	T49734	T16231	A54717
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195	195	484	780	6	563	651	1951	2150	2151	150	198	198	293	295	306
80.0	80.0	80.0	80.0	77.5	77.5	77.5	77.5	77.5	77.5	75.0	75.0	75.0	75.0	75.0	75.0
32	32	32	32	31	31	31	31	31	31	30	30	30	30	30	30
30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

-		fironboll
RESULT	STD	, todao

Dombesin - fire-bellied toad
C; Species: Bombina bombina (fire-bellied toad)
C; Species: Bombina bombina (fire-bellied toad)
C; Species: Bombina bombina (fire-bellied toad)
C; Species: 13-Jul-1981 #sequence_revision 13-Jul-1981 #text_change 20-Mrr-1998
C; Accession: A01564
R; Anastasi, A.; Erspamer, V.; Bucci, M.
ArTile: Biochem. Boobhys. 148, 443-446, 1972
A; Tile: Isolation and amino acid sequences of alytesin and bombes h, two analogous a A; Reference number: A01564; MUID:72163516
A; Residues: 1-14 < ANA>
C; Superfamily: gastrin-releasing peptide
C; Superfamily: gast

;; Gaps ;; Score 38; DB 1; Length 14; Pred. No. 0.078; 1; Indels 0; Mismatches 95.0%; 85.7%; Query Match Best Local Similarity Matches 6; Conserv

6; Conservative

7 QWAVGHL 13 2 QWXVGHL 8 ŏ g

RESULT

Dombesin precursor - yellow-bellied toad
C;Species: Bombina variegata (yellow-bellied toad)
C;Species: Bombina variegata (yellow-bellied toad)
C;Date: 31-pec-1991 #sequence_revision 01-bec-2000 #text_change -08-Dec-2000
C;Accession: S09095; B01564; A01564
R;Richter, K.; Egger, R.; Kreil, G.
R;Richter, K.; Egger, R.; Kreil, G.
R;Richter, K.; Egger, R.; Kreil, G.
R;Title: Molecular cloning of a cDNA encoding the bombesin precursor in skin of Bombi A;Reference number: S09095; MUID:90242964

A Accession: S09095
A; Molecule type: mRNA
A; Restidues: 1-107 < RIC>
R; Anastas; A.; Erspamer, V.; Bucci, M.
Arch. Biochem. Biophys. 148, 443-446, 1972
A; Reference number: 10154; MUID:72163516
A; Reference number: 10154; MUID:72163516
A; Restidues: 42-55 < ANNA
C; Superfamily: ranatensin

C;Reywords: amidated carboxyl end; cutaneous gland; hormone; neuropertide, pyroperiological sequence #status predicted <SIG>F;1-24/Domain: signal sequence #status predicted <SIG>F;25-41/Domain: amino-terminal propeptide #status predicted <PRO>

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:dbs

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Indels

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C; Accession: S07204
R; Anastasi, A.; Erspamer, V.; Endean, R.
Experientia 31, 510-511, 1975
Experientia 31, 510-511, 1975
A; Title: Aminoacid composition and sequence of litorin, a bombesin-like nonapeptide f A; Reference number: S07204; MUID:75187011
A; Reference number: S07204
A; Molecule type: protein
A; Residues: 1-9 < ANA>
C; Superfamily: gastrin-releasing peptide
C; Superfamily: gastrin-releasing peptide
C; Keywords: amidated carboxyl end; neuropeptide; pyroglutamic acid
F; 1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
F; 9/Modified site: amidated carboxyl end (Met) #status experimental
                                                                                                                                                                                                                                                                                                                                              Cispecies: Neurospora crassa
Cipate 105-May-2000 #sequence_revision 05-May-2000 #text_change 28-Jul-2000
Cistocasion: T48787
Submitted to the Protein Sequence Database, April 2000
A; Reference number: 224541
A; Reference number: 224541
A; Residues: 1-256 <SCH>A; Residues: 1-256 <SCH>A; Residues: 1-256 <SCH>A; Residues: 1-256 <SCH>A; Respectmental source: cosmid contig 13Ell; strain 74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Dombosin-like peptide L - frog (Pseudophryne guentheri)
C;Species: Pseudophryne guentheri
C;Dates - Do-Jan-1993 #sequence_revision 30-Jan-1993 #text_change 18-A.44-2000
C;Accession: A66409
R;Simmaco, M.; Severini, C.; De Biase, D.; Barra, D.; Bossa, F.; Roberts, J.D.; M..ch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              litorin I - Australian tree frog (Litoria aurea)
C;Species: Litoria aurea
C;Date: 12-Feb-1993 #sequence_revision 12-Mar-1993 #text_change 18-Aug-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Gene: NCSP:13E11.350
A; Map position: 2
A; Introns: 213/2
C; Superfamily: Neurospora crassa hypothetical protein 13E11.350
                                                                                                                                                                                                                                                                                                                        hypothetical protein 13E11.350 [imported] - Neurospora crassa
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Pred. No. 2.2e+05;
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              Mismatches
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          0;
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Best Local Similarity 83.3
Matches 5; Conservative
              Conservative
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Best Local Similarity
Matches 6; Conserv
                                                                                                                        139 OWCVGHL 145
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                                                                              2 QWXVGHL 8
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          Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C;Species: Bombina orientalis

te: 18-Oct-1991 #sequence_revision 18-Oct-1991 #text_change 24-Sep-1999

Gession: A39261

K;Phindel, E.R.; Gibson, B.W.; Reeve Jr., J.R.; Kelly, M.

Proc. Natl. Acad. Sci. U.S.A. 87, 9813-9817, 1990

A;Title: Cloning of CDNAs encoding amphibian bombesin: evidence for the relationship bet

A;Reference number: A39261; MUID:91088602
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A; Residues: 1-232 <AIG>
A; Residues: 1-232 <AIG>
Cross-references: EMBL: 236130; NID: 9536688; PIDN: CAA85224.1; PID: 9536689; MIPS: YBR2610
C; Genetics:
A; Map position: 2R
C; Superfamily: Neurospora crassa hypothetical protein 13E11.350
F;42-55/Product: bombesin #status experimental <MAT>
F;56-107/Domain: carboxyl-terminal propeptide #status predicted <CPT>
F;42/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status experimen F;55/Modified site: amidated carboxyl end (Met) (amide in mature form from following gly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Nypothetical protein YBR261c - yeast (Saccharomyces cerevisiae)
NyAlternate names: hypothetical protein YBR1729
Caccies: Saccharomyces cerevisiae
Secondaromyces cerevisiae
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C;Superfamily: ranatensin
C;Keywords: neuropeptide
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Pred. No. 0.65;
0; Mismatches 1; Indels
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Pred. No. 0.72;
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Pred. No. 3.7;
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85.7%;
                                                                                                                                                                                                          Query Match 95.0%;
Best Local Similarity 85.7%;
Matches 6; Conservative
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Matches 6; Conservative
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A;Molecule type: mRNA
A;Residues: 1-119 <SPI>
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A; Residues: 1-232 <DOI>
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Best Local Similarity
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gastrin-releasing peptide - pig
N;Contains: neuromedin C
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 31-Mar-1981 #sequence_revision 31-Mar-1981 #text_change 20-H::-1998
C;Accession: A01562; A32738; C60301
R;McDonald, T.J.; Jornvall, H.; Nilsson, G.; Vagne, M.; Ghatei, H.; Bloom, S.R.; Mutt Biochem. Biophys. Res. Commun. 90, 227-233, 1979
A;Title: Characterization of a gastrin releasing peptide from porcinc non-antral gast A;Reference number: A01562; MUID:80042433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gastrin-releasing peptide - smaller spotted catshark (tentative sequence) (fragm. ...; c) species: Scyliorhinus cantcula (smaller spotted catshark, smaller spotted doglish) (c) accession: S06203 sequence_revision 30-Jan-1998 #text_change ji-mar-2000 c) accession: S06203 sequence_revision 30-Jan-1998 #text_change ji-mar-2000 c) accession: S06203 sequence_revision in thim, L. Gen. Comp. Endocrinol. 68, 415-420, 1987 accession: S06203; MUD:88137922 accession: S06203; MUD:88137922 accession: S06203 accession: S0620
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                                                                                                                                                                                                                                                                                C; Accession: Å60647
R; Lemaire, S.; Trifaro, J.M.; Chouinard, L.; Cecyre, D.; Dessureault, J.; Merc Peptides 10, 355-360, 1989
A; Title: Structural identification, subcellular localization and secretion of A; Reference number: A60647; MUID: 89331342
A; Accession: A60647
                                                                                                                                                                             neuromedin C - bovine
C:Species: Bos primiqenius taurus (cattle)
C:Date: 14-May-1993 #sequence_revision 14-May-1993 #text_change 07-May-1999
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A; Mesidues: 1-10 <LEM>
A; Note: this neuropeptide was purified from secretory granules of
C; Superfamily: gastrin-releasing peptide
C; Keywords: adrenal gland; neuropeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 25;
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83.3%; Pred. No. 0.59;
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Pred. No. 1.5;
0; Mismatches
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A;Residues: 1-27 AMCD-
R;Minamino, N.; Kangawa, K.; Matsuo, H.
Biochem. Biophys. Res. Commun. 119, 14-20, 1984
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Matches 5; Conserv
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              WAVGHL 9
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Peptides 11, 299-304, 1990
A.Title: Six novel tachykinin- and bombesin-related peptides from the skin of the Austra A.Teference number: A60409; MUID: 90287814
A.Reference number: A60409
A.Molecule type: protein
A.Residues: 1-13 <SIM>
C.Superfamily: unassigned animal peptides
C.Keywords: amidated carboxyl end; hormone; neuropeptide; pyroglutamic acid
F:1/Modified site: pyrrolidone carboxyl end (Gln) #status experimental
F:13/Modified site: amidated carboxyl end (Met) #status experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C:Species: Rana pipiens (northern leopard frog)
C:Accession: B2894 #sequence_revision 30-Jun-1989 #text_change 24-Sep-1999
C:Accession: B28945
B:Krane, I.M.; Naylor, S.L.; Helin-Davis, D.; Chin, W.W.; Spindel, E.R.
J. Biol. Chem. 263, 13317-13323, 1988
A:Title: Molecular cloning of cDNAs encoding the human bombesin-like peptide neuromedin A:Reference number: A92667; MUID:88330837
A:Molecula type: mRNA
A:Molecula type: mRNA
A;Residues: 1-82 < KRA>
A;Cross-references: GB:M21552; GB:J03948; NID:g213693; PIDN:AAA49533.1; PID:g213694
C:Superfamily: ranatensin
C:Keywords: neuropeptide
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C;Species: Rana ridibunda (laughing frog)
C;Species: Rana ridibunda (laughing frog)
C;Species: Rana ridibunda (laughing frog)
C;Accession: P00177
R;Conlon, J.M.; O'Harte, F.; Vaudry, H.
Biochen. Biophys. Res. Commun. 178, 526-530, 1991
A;Title: Primary structures of the bombesin-like neuropeptides in frog brain show that b. A;Reference number: P00177; MUID:91315477
A;Accession: P00177
A;Molecule type: protein
A;Residues: 1-10 <CON>
A;Rosidues: I-10 <CON>
C;Superfamily: gastrin-releasing peptide
C;Superfamily: gastrin-releasing peptide
C;Superfamily: dastrin-releasing peptide
C;Keywords: amidated carboxyl end
F;10/Modified site: amidated carboxyl end
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83.3%; Pred. No. 0.59;
ive 0; Mismatches 1; Indels
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Pred. No. 0.48;
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Pred. No. 3.3;
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83.3%;
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Best Local Similarity 83.3
Matches 5; Conservative
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Best Local Similarity
'-hes 5; Conserv?
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Best Local Similarity
Matches 5; Conserv
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6 QWAVGH 11
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Gaps

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completed: October 25, 2001, 11:25:20 He: 333 sec
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A; Residues: 1-120 <WEC>
                                                                                                                                                                          Query Match
Best Local Similarity
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Best Local Similarity
Matches 4; Conserv
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47 QWAIGH
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Job time:
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N;Contains: proventricular peptide
C;Species: Gallus gallus (chicken)
C;Date: 28-Feb-1981 #sequence_revision 19-Apr-1996 #text_change 19-Apr-1996
C;Accession: A01563; S08150
C;Accession: A01563; S08150
C;Accession: A01563; S08150
A;Title: Characterization of an avian gastric (proventricular) peptide having sequence PRBS Lett. 122, 45-48, 1980
A;Title: Characterization of an avian gastric (proventricular) peptide having sequence NA;Reference number: A01563; MUID:81164953
A;Accession: A01563
A;Molecule type: protein
A;Residues: 1-27 AMCD>
R;Campbell, B.J; Youngy, J.; Dimaline, R.; Dockray, G.J.
B;Cochim. Biophys. Acta 1048, 66-71, 1990
A;Title: Isolation, sequence and blosynthetic significance of a novel fragment of gastriance of the contained by the protein A;Residues; 1-27 CAM>
A;Residues; 1-27 CAM>
A;Residues; 1-27 CAM>
A;Residues; 1-27 CAM>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C. Species: Cavia porcellus (guinea pig)
C. Date: 31-Dec-1992 #sequence_revision 31-Dec-1992 #text_change 20-Mar-1998
C. Date: 31-Dec-1992 #sequence_revision 31-Dec-1992 #text_change 20-Mar-1998
C. Date: 31-Dec-1992 #sequence_revision 31-Dec-1992 #text_change 20-Mar-1998
C. Shaw, C.; Thim, L.; Conlon, J.M.
J. Neurochem. 49, 1348-1354, 1987
A. Title: Primary structure and tissue distribution of guinea pig gastrin-releasing pepti A. Reference number: A60206; MUID:88034997
A. Molecule type: protein
A. Molecule type: protein
A. Molecule type: protein
A. Note: the carboxyl-terminal residue was not determined directly, but an alpha-amidated fon times
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C.Superfamily: gastrin-releasing peptide
C.Keywords: amidated carboxyl end; brain; hormone; intestine; neuropeptide; stomach
F;18-27/Product: neuromedin C *status predicted <NEU>
F;27/Modified site: amidated carboxyl end (Met) *status predicted
A;Title: Neuromedin C: a bombesin-like peptide identified in porcine spinal cord. A;Reference number: A32738; MUID:84153890
A;Accession: A32738
A;Accession: A32738
A;Molecule type: protein
A;Residues: 18-27 <MIN>
C;Superfamily: gastrin-releasing peptide
C;Superfamily: gastrin-releasing peptide
F;1-27/Product: gastrin-releasing peptide #status experimental <MAT>
F;18-27/Product: neuromedin C #status experimental <MAT>
F;18-27/Product: maidated carboxyl end (Met) #status experimental
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Pred. No. 1.7;
0; Mismatches 1
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                                                                                                                                                                                                                                                                                                                       82.5%;
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Best Local Similarity 83.3
Matches 5; Conservative
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Best Local Similarity
Matches 5; Conserv
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R;Wechselberger, C.; Kreil, G.; Richter, K.
Proc. Natl. Acad. Sci. U.S.A. 89, 9819-9822, 1992
A;Title: Isolation and sequence of a cDNA encoding the precursor of a bombesinli..; pe
A;Reference number: A47201; MUID:93028554
A;Accession: A47201
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C;Species: Xenopus laevis (African clawed frog)
C;Date: 21-Sep-1993 #sequence_revision 18-Nov-1994 #text_change 04-Sep-1998
C;Accession: A47201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Note: sequence inconsistent with the nucleotide translation
A;Note: sequence extracted from NCBI backbone (NCBIN:115857, NCBIP:115858)
C;Superfamily: ranatensin
                                                                                                                                                                                                                               Gaps
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C;Superfamily: gastrin-releasing peptide
C;Keywords: amidated carboxyl end; neuropeptide
F;1-27/Product: proventricular peptide #status experimental <PVPT>
F;27/Modified site: amidated carboxyl end (Met) #status experimental
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Pred. No. 7.8;
1; Mismatches
                                                                                                                                                                                             Pred. No. 1.7;
                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                    Score 33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               bombesinlike peptide - African clawed frog
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us-09-630-333-4.rai

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Sequence 9, Appli
Patent No. 5217955
Patent No. 5217955
Sequence 1, Appli
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Sequence 4, Appli
Sequence 5, Appli
Sequence 9, Appli
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2.567 Million cell updates/sec
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30,
32,
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/cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/6A_COMB.pep:*
/cgn2_6/ptodata/2/iaa/6B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/pcvvS_COMB.pep:*
/cgn2_6/ptodata/2/iaa/pcvvS_COMB.pep:*
4.5
Compugen Ltd
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US-07-619-747B-1

US-07-619-747B-4

US-07-619-747B-9

US-07-619-747B-10

US-07-619-747B-12

US-07-619-747B-12

US-07-619-747B-12

US-07-619-747B-12

US-07-619-747B-22

US-07-619-747B-22

US-07-619-747B-25

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US-07-619-747B-28

US-07-619-747B-28

US-07-619-747B-28

US-07-619-747B-31

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US-07-619-747B-31
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-08-168-390-11
US-08-337-127-9
                                                                                                                                                                                                                                                                                                                                                                                                       197339 segs, 20590346 residues
                                                                                                                                     October 25, 2001, 11:23:56;
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GenCore version
Copyright (c) 1993 - 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                             sw model
                                                                                                                                                                                                                                                                                                                                BLOSUM62
Gapop 10.0 , Gapext 0.5
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                                                                                        OM protein - protein search, using
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length: 2000000000
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Match Length
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Perfect score:
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Sequen 1, App1		Seque ,6, Appl	ence 3		Sequence 39, Appl	40,	17,	4	Sequence 5, Appli	Sequence 6, Appli	7,	10	Sequence 11, Appl	Sequence 3, Appli	Sequence 116, App	Sequence 6, Appli	Sequence 7, Appli
US-07-619-747B-34	US-07-619-747B-35	US-07-619-747B-36	US-07-619-747B-37	US-07-619-747B-38	US-07-619-747B-39	US-07-619-747B-40	US-08-031-325A-37	US-08-263-905-4	US-08-263-905-5	US-08-263-905-6	US-08-263-905-7	US-08-263-905-10	US-08-263-905-11	US-07-919-731-3	US-08-287-957-116	US-08-240-711-6	US-08-240-711-7
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95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0
38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

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APPLICANT: Knight, Martha
APPLICANT: Takahashi, Kazayuki
APPLICANT: Chandrasekhar, Bhaskar
ATITLE OF INVENTION: Bombesin/Gastrin Releasing Peptide Antayomists
NUMBER OF SEQUENCES: 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note= "The amino-terminal residue comprises one of several chemical end cups."
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residue comprises an ethyl ester."
                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/168,390
                                                                                                                                                                                                                      ADDRESSEE: Sterne, Kessler, Goldstein & Fox
STREET: 1100 New York Avenue, Suite 600
CITY: Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0871.0040001
                   Sequence 11, Application US/08168390 Patent No. 5620955 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:
NAME: Goldstein, Jorge A.
REGISTRATION UNDABER: 29,021
REFERENCE/DOCKET NUMBER: 0871
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 371-2540
TELERA: (202) 371-2540
TELER: 34656 SSK
INFORMATION FOR SEQ ID NO: 11:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY: Modified-site
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                                                                                                                                                                                                   CORRESPONDENCE ADDRESS:
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COTHER INFORMATION:
US-08-168-390-11
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OTHER INFORMATION:
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                                                                                                                                                                                                                                                                                                                  USA
                                                                                                                                                                                                                                                                                                                                     20002
US-08-168-390-11
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LOCATION:
                                                                                                                                                                                                                                                                                                                  COUNTRY:
                                                                                                                                                                                                                                                                                        STATE:
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The sequence contains at position 1 a pyroglutamate, rather than a glutamate, and has an methylester C-terminus (i.e., COyOCH3), rather than a carboxyl C-terminus (i.e., COyOH).
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Patent NO. 5217955

Patent NO. 5217955

TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG

OF BOMBESIN, GRP, LITORIN OR NEUROMEDIN

NUMBER OF SEQUENCES: 42

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/520,225

FILING DATE: 09-MAY-1990

PRIOR PAPLICATION DATA:

APPLICATION NUMBER: 440,039

FILING DATE: 21-NOV-1989

FILING DATE: 15-SEP-1989
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Patent No. 5217955

TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG

TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG

OF BOMBESIN, GRP. LITORIN OR NEUROMEDIN

NUMBER OF SEQUENCES: 42

CURRENT APPLICATION DATA:

APPLICATION NUMBER: 05/08/520,225

FILING DATE: 09-MAY-1990

PRIOR APPLICATION DATA:

APPLICATION NUMBER: 400,339

FILING DATE: 21-NOV-1989

APPLICATION NUMBER: 408,125

FILING DATE: 15-SEP-1989
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                                                                                                                                                                                                                                                                             1; Indels
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Pred. No. 1.5e+05;
0; Mismatches 1; Indels
                                                                                                                                                                                                                                   95.0%; Score 38; DB 2; Length 8; 85.7%; Pred. No. 1.5e+05; live 0; Mismatches 1; Indels
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ilarity 85.7%; Pred. No. 1.5e+05;
Conservative 0; Mismatches 1
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                                                                                                                                                                                                                                   Query Match
Best Local Similarity 85.7
Matches 6; Conservative
                                                               FEATURE:

OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
US-08-337-127-9
    TYPE: amino acid STRANDEDNESS:
                                                TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
Matches 6; Conserv
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Best Local Similarity
Matches 6; Conserv
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2 QWAVGHL 8
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5217955-32
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5217955-34
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                 Score 38; DB 1; Length 8; Pred. No. 1.5e+05; 0; Mismatches 1; Indels
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ZIP: 02110-2804
COMPUTEN READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: IBM PS/2 Model 502 or 555X
OPERATING SYSTEM: IBM P.C. DOS (Version 3.30)
SOFTWARE: WordPerfect (Version 5.0)
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILING DATE: 03/02/08
FILING DATE: 12/09/88
FILING DATE: 12/09/88
APPLICATION NUMBER: 07/257,998
FILING DATE: 10/14/88
APPLICATION NUMBER: 07/24/8,771
FILING DATE: 06/08/88
APPLICATION NUMBER: 07/207,759
FILING DATE: 06/08/88
APPLICATION NUMBER: 07/207,759
FILING DATE: 06/08/88
APPLICATION NUMBER: 07/204,171
FILING DATE: 08/25/88
APPLICATION NUMBER: 07/100,571
FILING DATE: 09/24/87
ATORNEY/AGENT INFORMATION:
NAME: 01ark, paul T.
REGISTRATION NUMBER: 30,162
REFERENCE/DOCKET NUMBER: 005/26/87
                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
APPLICANT: Coy, David H.
APPLICANT: Moreau, Jacques-Pierre
APPLICANT: Mim, Sun H.
TITLE OF INVENTION: OCTAPEFILDE BOMBESIN
TITLE OF INVENTION: AMALOGS
NUMBER OF SEQUENCES: 11
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US/08/337,127
CLASSIPLICATION S10
CLASSIPLICATION DATA:
CLASSIPLICATION DATA:
APPLICATION NUMBER: 07/779,039
FILING DATE: 10/18/91
APPLICATION NUMBER: 07/502,438
FILING DATE: 03/30/90
APPLICATION NUMBER: 07/397,169
FILING DATE: 08/21/89
APPLICATION NUMBER: 07/376,555
FILING DATE: 07/07/89
APPLICATION NUMBER: 07/376,555
FILING DATE: 07/07/89
APPLICATION NUMBER: 07/376,555
FILING DATE: 07/07/89
      95.0%; Scor.
85.7%; Pred
0;
                                                                                                                                                                                                                                                 Sequence 9, Application US/08337127
Patent No. 5877277
                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADDRESSEE: Fish & Richardson STREET: 225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (617) 542-5070
(617) 542-8906
                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STATE: Massachusetts
Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Boston
                                                                                                  2 QWXVGHL 8
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US-08-337-127-9
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Length 9;
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APPLICANT: Schally, Andrew V.,
TITLE OF INVENTION: No. 5244883apeptide Bombesin
TITLE OF INVENTION: Antagonists
APPLICANT: Schally, Andrew V., ITLE OF INVENTION: No. 5244883apeptide Bombesin TITLE OF INVENTION: Antagonists
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Position 1 is D-Trp
Position 8 is a reduced
isostere of named aminoacid
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Pred. No. 1.5e+05;
0; Mismatches 1;
                                                                                                                                                       STATE: LOUISIANA
COUNTRY: USA
ZIP: 7000
ZIP: 7000
ZIP: 7000
COMPUTER READABLE FORM:
MEDIUM TYPE: 360K Diskette
COMPUTER: 1BM PC
OPERATING SYSTEM: DOS 5.0
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
CLASSIFICATION DATA:
APPLICATION NUMBER: NO. 5244883e
FILING DATE: N/A
APPLICATION NUMBER: NO. 5244883e
FILING DATE: N/A
APPLICATION NUMBER: NA
APPLICATION NUMBER: NA
APPLICATION NUMBER: NA
APPLICATION NUMBER: STATENE DATE: NA
APPLICATION NUMBER: STATENE DATE: NA
APPLICATION NUMBER: STATENE DATE: NA
APPLICATION NUMBER: Z2,940
REFERRING CANCENT NUMBER: SHAL3.0-011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADDRESSEE: Dr. Andrew V. Schally
STREET: 5025 Kawanne Avenue
                                                                                                  ADDRESSEE: Dr. Andrew V. Schally
STREET: 5025 Kawanne Avenue
CITY: Metairie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 4, Application US/07619747B Patent No. 5244883 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELECOMMUNICATION INFORMATION:
TELEPHONE: (908)494-5240
TELEFAX: 1-908-494-0428
TELEX: 511642 BEPATEDIN
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
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Best Local Similarity 85.7
Matches 6; Conservative
                                                            NUMBER OF SEQUENCES: 4(CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ) OTHER INFORMATION:
) OTHER INFORMATION:
) OTHER INFORMATION:
US-07-619-747B-2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CITY: Metairie
STATE: Louisiana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AMINO
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                                                                                                                                                                                                               APPLICANT: Cai, Ren Zhi
APPLICANT: Cai, Ren Zhi
APPLICANT: Schally, Andrew V.,
TITLE OF INVENTION: No. 5244883apeptide Bombesin
TITLE OF INVENTION: Antagonists
NUMBER OF SEQUENCES: 40
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Andrew V. Schally
STREET: 5025 Kawanne Avenue
CITY: Metairie
STATE: Louisiana
COUNTRY: USA
ZIP: 70002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; OTHER INFORMATION: Position 8 is a reduced ; OTHER INFORMATION: isostere of named aminoacid US-07-619-1478-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: 360K Diskette
COMPUTER: IBM PC
OPERATING SYSTEM: DOS 5.0
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION UNMER: US/07/619,747B
FILING DATE: 19901129
CLASSIFICATION: 514
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APPLICATION NUMBER: No. 5244883e
FILING DATE: N/A
APPLICATION NUMBER:
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Behr, Omri M.
REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 2, Application US/07619747B Patent No. 5244883 GENERAL INFORMATION:
APPLICANT: Cai, Ren Zhi
                                                                                                                                                         Sequence 1, Application US/07619747B Patent No. 5244883
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1-908-494-0428
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INFORMATION FOR SEQ ID NO: 3
SEQUENCE CHARACTERISTICS:
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MOLECULE TYPE: peptide
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Best Local Similarity
Trans 6; Conserva
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2 QWAVGHL 8
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US-07-619-747B-1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 9, Application US/07619747B
Patent No. 5544883
GENERAL INFORMATION:
APPLICANT: Cai, Ren Zhi
APPLICANT: Cai, Ren Zhi
TITLE OF INVENTION: No. 524483apeptide Bombesin
TITLE OF INVENTION: Antagonists
NUMBER OF SEQUENCES: 40
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Andrew V. Schally
STRRET: 5025 Kawanne Avenue
CITY: Metairie
                                                                                                                                                                                                                                                                                                                                                                                                    Position 1 is D-Tpi
Position 8 is a reduced
isostere of named aminoacid
                                                          ATTORNEY/AGENT INFORMATION:
NAME: Behr, Omri M.
REGISTATION NUMBER: 22,940
REFERENCE/DOCKET NUMBER: SHAL3.0-011
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMUTER READABLE FORM:
MEDIUM TYPE: 366K Diskette
COMPUTER: 1BM PC
OPERATING SYSTEM: DOS 5.0
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: NO. 5244883e
FILING DATE: N/A
APPLICATION NUMBER: ELLING DATE:
FILING DATE: N/A
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SHAL3.0-011
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REGISTRATION NUMBER: 22,940
REFERENCE/DOCKET NUMBER: SHAL
TELECOMMUNICATION INFORMATION:
TELEPHONE: (908)494-5240
TELEFAX: 1-908-494-0428
                                                                                                                                                         TELEPHONE: (908)494-5240
TELERAX: 1-908-494-0428
TELEX: 311642 BEPATEDIN
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATTORNEY/AGENT INFORMATION:
NAME: Behr, Omri M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 85.7
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                      Unknown
                                                                                                                                                                                                                                                                                                                                            MOLECULE TYPE: peptide
    FILING DATE: N/A APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                 CTHER INFORMATION:
COTHER INFORMATION:
COTHER INFORMATION:
COTHER INFORMATION:
US-07-619-747B-5
                                                                                                                                                                                                                                                                                                                             Unknown
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                                                                                                                                                                                                                                                                                    TYPE: AMINO
STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       USA
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2 QWAVGHL 8
                                             FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY: US
                                                                                                                                                                                                                                                                                                                             TOPOLOGY:
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                                                                                                                                                                                                                                                               LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CITY: N
STATE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Position 1 is 5F-D-Trp
Position 8 is a reduced
isostere of named aminoacid
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APPLICANT: Schally, Andrew V.,
TITLE OF INVENTION: No. 5244883apeptide Bombesin
TITLE OF INVENTION: Antgonists
NUMBER OF SEQUENCES: 40
A0DRESSEE: Dr. Andrew V. Schally
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 95.0%; Score 38; DB 1; I
85.7%; Pred. No. 1.5e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0; Mismatches
                                                        OPERATING SISLEM:
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
CLASSIFICATION DATA:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: NO. 5244883e
FILING DATE: NA APPLICATION NUMBER: SILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Behr, Omri M. REGISTRATION NUMBER: 22,940
REFERENCE/DOCKET NUMBER: SHAL3.0-01:
TELECOMMUNICATION INFORMATION:
TELEPHONE: (908)494-5240
TELEFAX: 1-908-494-0428
TELEPHONE: (908)494-5240
TELEFAX: 511642 BEPATEDIN
TELECOMMUNICATION: OWR SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                        SHAL3.0-011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDIUM TYPE: 360K Diskette
COMPUTER: IBM PC
OPERATING SYSTEM: DOS 5.0
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
RAPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
CLASSIFICATION: 514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADDRESSEE: Dr. Andrew V. Schally STREET: 5025 Kawanne Avenue CITY: Metairie STATE: Louisiana COUNTRY: USA ZIP: 70002 COMPUTER READABLE FORM: MEDIUM TYPE: 360K Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE: 19901129
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: NO. 5244883e
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   equence 5, Application US/07619747B
Cent No. 5244883
SENERAL INFORMATION:
                MEDIUM TYPE: 360K Diskette
COMPUTER: IBM PC
OPERATING SYSTEM: DOS 5.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 85.7,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRANDEDNESS: Unknown
TOPOLOGY: Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MOLECULE TYPE: peptide
COMPUTER READABLE FORM:
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) OTHER INFORMATION:
) OTHER INFORMATION:
US-07-619-747B-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AMINO
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US-07-619-747B-5
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(japs

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Score 38; DB 1; Length 9;
Pred. No. 1.5e+05;
0; Mismatches 1; Indels
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Pred. No. 1.5e+05;
                                                                                                                                                                                                                                                                                                     Sequence 12, Application US/07619747B
Patent No. 5344883
GENERAL INFORMATION:
APPLICANT: Cai, Ren Zhi
APPLICANT: Schally, Andrew V.,
TITLE OF INVENTION: No. 5244883apeptide Bombesin
TITLE OF INVENTION: Atagonists
NUMBER OF SEQUENCES: 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; OTHER INFORMATION: Position 1 is D-Tpi
; OTHER INFORMATION: Position 8 is a reduced
; OTHER INFORMATION: isostere of named aminoacid
US-07-619-747B-12
        ; OTHER INFORMATION: isostere of named aminoacid US-07-619-747B-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OPERATING SYSTEM: DOS 5.0
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION DATA:
APPLICATION NUMBER: No. 5244883e
FILING DATE: N/A
APPLICATION NUMBER:
FILING DATE:
ATTONENY/AGENT INFORMATION:
NAME: Behr, Omri M.
REGISTRATION NUMBER: 22,940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   E: Dr. Andrew V. Schally
5025 Kawanne Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY: USA
ZIP: 70002
COMPUTER READABLE FORM:
MEDIUM TYPE: 360K Diskette
COMPUTER: IBM PC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE/DOCKET NUMBER: SETELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEPHONE: (908,494-5240)
TELEFAX: 1-908-494-0428
TELEEX: 511642 BEPATEDIN
INFORMATION FOR SEQ ID NO: 12:
SEQUENCE CHARACTERISTICS:
                                                                                    95.0%;
85.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  95.0%;
85.7%;
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Best Local Similarity 85...
6; Conservative
                                                                                    Query Match
Best Local Similarity 85.7
Matches 6; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Andrey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STATE: Louisiana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE: 19
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Metairie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       11 || || 2 QWAVGHL 8
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2 QWAVGHL 8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH:
                                                                                                                                                                                                                                                                  RESULT 11
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Cai, Ren Zhi
APPLICANT: Schally, Andrew V.,
TITLE OF INVENTION: No. 5244883apeptide Bombesin
TITLE OF INVENTION: Antagonists
NUMBER OF SEQUENCES: 40
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Andrew V. Schally
STREET: 5025 Kawanne Avenue
CITY: Metairie
STREET: Louisiana
COUNTRY: USA
ZIP: 70002
                                                                                                                                                                                                                         isostere of named aminoacid
                                                                                                                                                                                                                                                                                                     95.0%; Score 38; DB 1; I
85.7%; Pred. No. 1.5e+05;
live 0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OTHER INFORMATION: Position 1 is D-Trp
OTHER INFORMATION: Position 8 is a reduced
                                                                                                                                                                             OTHER INFORMATION: Position 1 is NH2CO-Trp
OTHER INFORMATION: Position 8 is a reduced
OTHER INFORMATION: isostere of named aminos
US-07-619-7478-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: 360K Diskette
COMPUTER: IBM PC
OPERATING SYSTEM: DOS 5.0
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
CLASSIFICATION: 514
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLASSIFICATION: 314
PRIOR APPLICATION DATA:
APPLICATION NUMBER: No. 5244883e
FILING DATE: N/A
APPLICATION NUMBER: SPILING DATE:
ATORNEY/AGENT INFORMATION:
NAME: Behr, Omri M.
REGISTRATION NUMBER: 22,940
REFERENCE/DOCKET NUMBER: SHAL3.0-01
TELEPHONE: (908)494-5240
TELEPHONE: (908)494-5240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-07-619-747B-10; Sequence 10, Application US/07619747B Patent no. 52448B3; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELETA: 1-908-49-4 CLEEN TELETA: 511642 BEPATEOIN INFORMATION FOR SEQ ID NO: 10: SEQUENCE CHARACTERISTICS:
TELEX: 511642 BEPATEDIN INFORMATION FOR SEQ ID NO: 9 SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                   Query Match 95.0
Best Local Similarity 85.7
Matches 6; Conservative
                                                                                TYPE: AMINO
STRANDEDNESS: Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRANDEDNESS: Unknown
                                                                                                                     TOPOLOGY: Unknown
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TOPOLOGY: Unknown
MOLECULE TYPE: peptide
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95.0%; Score 38; DB 1; Length 9; 85.7%; Pred. No. 1.5e+05; live 0; Mismatches 1; Indels
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Patent No. 5244883
GENERAL INFORMATION:
APPLICANT: Cal, Ren Zhi
TITLE OF INVENTION: No. 5244883apeptide Bombesin
TITLE OF INVENTION: Antagonists
NUMBER OF SEQUENCES: 40
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Andrew V. Schally
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Position 1 is D-pglu
Position 8 is a reduced
isostere of named aminoacid
Position 9 is Tpi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE/DOCKET NUMBER: SHAL3.0-011
TELECOMMUNICATION INFORMATION:
TELEPHONE: (908)494-5240
TELEFEAX: 1-908-494-0428
                                                                                                                                                                                                                                COMPUTER: IBM PC
OPERATING SYSTEM: DOS 5.0
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
CLASSIFICATION: 514
                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION DATA:
APPLICATION NUMBER: No. 5244883e
FILING DATE: N/A
APPLICATION NUMBER:
FILING DATE:
TITLE OF INVENTION: Antagonists
                      NUMBER OF SEQUENCES: 40
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Andrew V. Scl
STREET: 5025 Kawanne Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTORNEY/AGENT INFORMATION:
NAME: Behr, Omri M.
REGISTRATION NUMBER: 22,940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5025 Kawanne Avenue
                                                                                                                                                                                                               360K Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEFAX: 1-908-494-0428
TELEX: 511642 BEPATEDIN
INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
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Best Local Similarity 85.7°
"Shes 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRANDEDNESS: Unknown
                                                                                                                                             COUNTRY: USA
ZIP: 70002
COMPUTER READABLE FORM:
MEDIUM TYPE: 360K Di
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MOLECULE TYPE: peptide
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COMPUTER READABLE FORM:
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COTHER INFORMATION:
COTHER INFORMATION:
COTHER INFORMATION:
US-07-619-747B-15
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                                                                                                                               Louisiana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CITY: Metairie
STATE: Louisiana
                                                                                                         Metairie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: AMINO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 QWXVGHL 8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STREET:
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                                                                      Sequence 14, Application US/07619747B
Patent No. 5244883
GENERAL INFORMATION:
APPLICANT: Cai, Ren Zhi
APPLICANT: Schally, Andrew V.,
TITLE OF INVENTION: No. 5244883apeptide Bombesin
TITLE OF INVENTION: Antagonists
NUMBER OF SEQUENCES: 40
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Andrew V. Schally
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 15, Application US/07619747B
Sequence 15, Application US/07619747B
Patent No. 5244883
GENERAL INFORMATION:
APPLICANT: Cai, Ren Zhi
APPLICANT: Schally, Andrew V.,
TITLE OF INVENTION: No. 5244883apeptide Bombesin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Position 1 is Hea
Position 8 is a reduced
isostere of named aminoacid
Position 9 is Tpi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE: 19901129
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: No. 5244883e
FILING DATE: NAA
APPLICATION NUMBER: No. 5244883e
FILING DATE: PILING DATE:
FILING DATE: PORMATION:
REFERENCE/POCKET NUMBER: 22,940
REFERENCE/POCKET NUMBER: SHAL3.0-011
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELEFAX: 1-908-494-5240
TELEFAX: 1-908-494-628
TELEFAX: 51164_58
INFORMATION FOR SEQ ID NO: 14:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: 360k Diskette
COMPUTER: 1BM PC
OPERATING SYSTEM: DOS 5.0
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
                                                                                                                                                                                                                                                                                          5025 Kawanne Avenue
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OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                          STREET: 5025 Kawa
CITY: Metairie
STATE: Louisiana
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Best Local Similarity
Matches 6; Conserv
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                                                         US-07-619-747B-14
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Search completed: October 25, 2001, 11:23:56 Job time: 269 sec
      APPLICATION NUMBER:
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Sequence 18, Application US/07619747B

Patent No. 5244883

GENERAL INFORMATION:
APPLICANT: Cai, Ren Zhi
APPLICANT: Cai, Ren Zhi
TITLE OF INVENTION: No. 5244883apeptide Bombesin
TITLE OF INVENTION: No. 5244883apeptide Bombesin
TITLE OF SEQUENCES: 40
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Andrew V. Schally
STREET: 5025 Kawane Avenue
CITY: Metairie
STREET: 5025 Kawane Avenue
CITY: Metairie
STREET: 1001siana
COUNTRY: USA
ZIP: 70002
COMPUTER READABLE FORM:
MEDIUM TYPE: 360K Diskette
COMPUTER: 1BM PC
OMPUTER: 1BM PC
OMPUTER: 1BM PC
OMPUTER: 1BM PC
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: NO. 5244883e
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Position 1 is D-Phe
Position 8 is a reduced
isostere of named aminoacid
                                                                                                                                                                                                                                                                    ATTORNEY AGENT INFORMATION:
NAME: Behr, Omri M.
REGISTRATION NUMBER: 22,940
REFERENCE/DOCKET NUMBER: 22,940
TELEPHONE, 1098,144-5240
TELEPHONE: (908)494-5240
TELEFAX: 1-908-494-0428
TELEX: 511642 BEPATEDIN
INFORMATION FOR SEQ ID NO: 17:
SEQUENCE CHARACTERISTICS:
LENGTH: 9
                                                           SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
CLASSIPTCATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: NO. 5244883e
FILING DATE: N/A
APPLICATION NUMBER:
MEDIUM TYPE: 360k Diskette
COMPUTER: IBM PC
OPERATING SYSTEM: DOS 5.0
                                         DOS 5.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRANDEDNESS: Unknown
TOPOLOGY: Unknown
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTHER INFORMATION:
CTHER INFORMATION:
CTHER INFORMATION:
US-07-619-747B-17
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Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AMINO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 QWXVGHL 8
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Gaps
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                                                                                                                                                                                                                                                                               Position 1 is D-Trp
Position 8 is a reduced
isostere of named aminoacid
Position 9 is Tpi
                                                REFERENCE/DOCKET NUMBER: SHAL3.0-011
TELECOMMUNICATION INFORMATION:
TELEPHONE: (908 494-5240
TELEPH: 511642 BEPATEDIN
INFORMATION FOR SEQ ID NO: 18:
SEQUENCE CHARACTERISTICS:
ATTORNEY AGENT INFORMATION:
NAME: Behr, Omri M.
REGISTRATION NUMBER: 22,940
                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity 85...
6; Conservative
                                                                                                                                                                                                                Unknown
                                                                                                                                                                                                                           TOPOLOGY: Unknown
MOLECULE TYPE: peptide
                                                                                                                                                                            LENGTH:
TYPE: AMINO
STRANDEDNESS: Unkno
                                                                                                                                                                                                                                                             FEATURE:

OTHER INFORMATION:

OTHER INFORMATION:

OTHER INFORMATION:

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OTHER INFORMATION:

US-07-619-747B-18
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Search time 129.78 Seconds (without alignments) 3.737 Million cell updates/sec
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GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                412676 seqs, 60623988 residues
                                                                                                                                                                                         October 25, 2001, 11:22:45;
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Maximum Match 100%
Listing first 45 summaries
                                                                                                                             OM protein - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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Maximum DB seq length: 2000000000
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Match Length DB
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Perfect score:
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PA (TUSZ/) TUSZYNSKI G.	PA (WILL/) WILLIAMS T.	PA (ACTO/) ACTOR P.	XX	PI Tuszynski G, Williams T,	XX	DR WPI; 2001-080760/09.	XX	PT Treating cancer involves ad	PT a peptide or co-administering c	· · · · · · · · · · · ·	
Bombesin/gastrin-r	Non-cyclic analogu	Linear litorin ana	Linear litorin ana	Peptide analogue #	Bombesin antagonis	Bombesin antagonis	Bombesin receptor	Bombesin antagonis	Bombesin peptide a	Amino acid sequenc	
/ 22 AAB48341	8 11 AAR04531	8 12 AAR11224	8 12 AAR11240	8 12 AAR14877	8 13 AAR28456	8 13 AAR28459	8 16 AAW64910	8 19 AAW50941	8 20 AAW92740	8 21 AAB08302	
95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	

Bomt atter.	Nor, c., ·lic analt.,	Non cyclic analog	Non-cyclic anale 1.	Non-cyclic ana 11 41.	Non-cyclic analogu	Peptide bombesin u	0	oĘ	jo	jo		2	Ī			Peptide anales					_	.4 bsendo:	-d bsendoj	(opnesd		opnasa .	(opnesd 5-	6		6.	5	8-4 pseude.	S.
AAB72406	AAR0452	AAR045	AAR0452	AAR0452	AAR0453	AAR0834	AAR11520	AAR1152	AAR1152	AAR1152	AAR1203	AAR148		AAR148	AAR148	AAR14864	AAR1487	AAR1487		AAR1503	AAR2448	AAR24484	AAR244	AAR2449	AAR244	AAR2449	AAR2448	AAR2448	AAR2448	AAR2449	AAR2844	AAR28	AAR2845
22	11	11	11	11	11	11	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13	13	13	13	13	13	13	13	13	13
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38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
12	13	14	15	16	17	18	19	20	21	22	23	24	25	56	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

nistering chemotherapy agent conjudated chemotherapy agent and the pep ': -Bombesin/gastrin-releasing peptide receptor-recognising peptide. Cancer; chemotherapy; heparin; thrombospondin; drug resistance; toxicity; tumour; cytostatic; metalloprotease. Ę, or AAB48341 standard; peptide; 7 AA. 21-JUN-2000; 2000WO-US16955 99US-0140310 (first entry) WO200078359-A2 20-APR-2001 21-JUN-1999; 28-DEC-2000 Synthetic. AAB48341;

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                                        The invention relates to a method of treating a patient suffering from cancer that comprises administering a chemotherapy agent conjugated to a peptide. The peptides can be selected from heparin binding domains of the thrombospondin protein. The method and compositions comprising the agent and the peptide are useful for treating a patient with cancer to prevent drug resistant cancer, and for treating a patient with cancer to prevent drug resistance from occurring. Toxic chemotherapeutic agent can also be used, as peptide conjugation and allow less composition to be administered due to increased efficacy. More effective treatment at lower doses is achieved by targeting the chemotherapy agents to the tumour cells. The present sequence represents bombesin/gastrin-releasing peptide receptor-recognising peptide.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The peptide has an active site and a binding site for binding to a target cell receptor, and has one of the following modifications:

(a) a deletion of a residue within the active site and a modification of a residue outside of the active site; and

(b) a replacement of lor 2 residues within the active site with a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Manmalian gastrin releasing peptide; amphibian bombesin; cancer; therapeutic peptides.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 38; DB 22; Length 7;
Pred. No. 3.4e+05;
0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      89US-0397169, US-257998; WO-U0416.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Non-cyclic analogue of amphibian bombesin and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /label= D-phenylalanine
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Disclosure; Page 6; 44pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAR04531 standard; protein; 8 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (TULA ) TULANE E FUND ADMINISTRA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               95.0%;
85.7%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      est Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                          7 AA;
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1 qwavghl 7
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On binding to its receptor, the analogue acts as a competitive inhibitor of the naturally occurring peptide but due to the modifications, fails to exhibit the normal in vivo biological arrivity. The peptides are useful for the treatment of benign or malignant proliferation of fissues, eg cancers of the gastrointestinal cancer, colon cancer, lung cancer or breast cancer; for the treatment of atherosclerosis; and disorders of the gastrointestinal tissues.

This peptide is a claimed example of a highly generic formula.
                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This peptide is a specifically claimed example of a generic formula. The C-terminal amino acid (Met) of the naturally occurring peptide has been converted to an amide and Phe 8 has been replaced
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New linear peptide analogues of bombesin - modified to eliminariabiological activity while retaining receptor affinity, for their discreting
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       by statine.
The peptide is useful for treating benign or malignant tissue proliferation, artherosclerosis, gastrointestinal disorders and diabetes. They act as competitive inhibitors of natural peptides, since they bind to the cell receptors but have no biological
                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bombesin; litorin analogue; linear; receptor affinity; cancer;
                                                                                                                                                                                                                   Score 38; DB 11; Lengtn o, Pred. No. 3 4e+05;
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/label= D-p-chloro-phenylalanined
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                                                                                                                                                                                                                                                                                                                                                                                                              AAR11224 standard; Protein; 8 AA.
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85.7%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Linear litorin analogue.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (BIOM-) BIOMEASURE INC.
synthetic amino acid.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cancer, diabetes, etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 1991-087241/12.
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Best Local Similarity
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qwavghl
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                                                                                                                                                                                         Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          diabetes
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AAR11240

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Peptide agonists of litorin, gastrin releasing peptide - neuromedin B or C or bombesin, for treating cancer, preventing smooth muscle proliferation and suppressing appetite and alcohol
                                                                                                                                                                                                                                                                                                                  tissue proliferation; gastrin related peptide; peptide hormon.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ÷
                                                                                                                                                                                                                                                                                 Peptide analogue #18 of litorin, GRP, neuromedin or bombesi
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Pred. No. 3.4e+05;
0; Mismatches 1; Indels
 Score 38; DB 12; Length 8; Pred. No. 3.4e+05;
                                  0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note= "Leu-propylamide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              See AAR14860-R14880 and AAR15035-R15040.
                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
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(BIOM-) BIOMEASURE INC.
                                                                                                                                                                                 AAR14877 standard; Protein; 8 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                  /label- D-Phe
                                                                                                                                                                                                                                                                                                                                                                                                                                                OTHER
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85.7%;
95.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Coy DH, Kim SH, Moreau JP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              91WO-0003265
                                                                                                                                                                                                                                                   (first entry)
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                                   6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                /label=
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               Best Local Similarity
Matches 6; Conserv
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                                                                                   2 QWXVGHL 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      || |||||
2 qwavghl 8
                                                                  2 QWXVGHL 8
                                                                                                                                                                                                                                                                                                                                                                                                 Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                 Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              09-MAY-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             09-MAY-1990;
                                                                                                                                                                                                                                                 14-FEB-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 14-NOV-1991.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WO9117181-A.
                                                                                                                                                                                                                                                                                                                                                  Synthetic.
                                                                                                                                                                                                                  AAR14877;
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 Query Match
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AAR14877
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The peptide is useful for treating benign or malignant tissue proliferation, artherosclerosis, gastrointestinal disorders and diabetes. They act as competitive inhibitors of natural peptides, since they bind to the cell receptors but have no biological
                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New linear peptide analogues of bombesin - modified to eliminate biological activity while retaining receptor affinity, for treating cancer, diabetes, etc.
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                                                                                                                                                                                                                                                                                                                                                                                             Bombesin; litorin analogue; linear; receptor affinity; cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The analogue may also be of a naturally occurring peptide terminating at the C-terminus with a Met residue, such as the 10 amino acid C-terminal region of mammalian GRP or amphibian
                                                                             Score 38; DB 12; Length 8;
Pred. No. 3.4e+05;
0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /label= D-p-chloro-phenylalanine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 17; Page 53; 58pp; English.
                                                                                                                                                                                                                                                              AAR11240 standard; Protein; 8 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (TULA ) ADMIN TULANE EDUCATIONAL. (BIOM-) BIOMEASURE INC.
                                                                                                                                                                                                                                                                                                                                                                Linear litorin analogue (II).
                                                                             95.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Kim SH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              90WO-US04646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             89US-0397169.
90US-0502438.
                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                Conservative
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                                                                         Query Match
Best Local Similarity
Matches 6; Conserv
                                8 AA;
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2 qwavghl 8
                                                                                                                                              2 QWXVGHL 8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21-AUG-1989;
30-MAR-1990;
                                                                                                                                                                                                                                                                                                                                17-MAY-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO9102746-A
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                                                                                                                                                                                                                                                                                                                                                                                                                                               Synthetic
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                                                                                                                                                                                                                                                                                               AAR11240;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                  Sequence
 activity
                                                                                                                                                                                                                                                                                                                                                                                                                  diabetes
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AAR28456 RESULT

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The C-terminal is amidated. The peptide is an example of a highly generic formula for bombesin antagonists which are [psi8-9 pseudo] nonapeptides contg. D- or L-tryptophan or tryptophan analog 2.3,4,9-tetrahydro-lH-pyrido[3,4-b]-indol-3-carboxplic acid (Tpi) at the N- and/or C-terminal.

The peptide is a bombesin/GRP (gastrin releasing peptide) antagonist and is useful for treatment of states of hypergastrinemia. e.g. pernicious anaemia, chronic atrophic gastritis, Zollinger-Ellison syndrome and vitiligo, associated with diffuse hyperplasia of gastric enterochromaffin-like cells, and with an increased risk of developing multifocal gastric carcinoid tumours. The peptide can also be used to treat lung, colon and gastric cancers. Dosage is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New nona:peptide bombesin antagonists - used for treating hypergastrinaemic states, such as pernicious anaemia and Zollinger-Ellison syndrome and also used against lung and gastric
                                                                                                                                                                                                                                                                                                                                                                                                   /label= psi
/note= "Trp(For), For= formyl; residues 7-8 are
linked via a pseudo peptide bond"
                                                                                                                                                                                                                                                                           /note= "Mpp-Gln; Mpp= 3-(4-methoxyphenyl)
propionic acid"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 38; DB 13; Length 8;
Pred. No. 3.4e+05;
); Mismatches 1; Indels
                                                                                                                                                                  GRP; gastrin releasing peptide.
                                                                                                                                                                                                                                                                                                                                                                      peptide bond"
                                                                                                                                                                                                                                                                                                                               /label= psi
/note= "residues 7-8
                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Disclosure; Page 8; 50pp; English.
                 AAR28459 standard; Protein; 8 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (TULA ) TULANE EDUCATIONAL FUND.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ;
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85.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          91WO-US08534,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               90US-0619747.
                                                                                                                             Bombesin antagonist (27)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Schally AV;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 1992-217019/26
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Best Local Similarity
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Modified-site
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               29-NOV-1990;
                                                                                         09-DEC-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cancer, etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO9209626-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      11-JUN-1992
                                                                                                                                                                  Bombesin;
                                                                                                                                                                                                     Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                      AAR28459;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cai RZ,
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Matches
AAR28459
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The peptide is a bombesin/GRP (gastrin releasing peptide) antagonist and is useful for treatment of states of hypergastrinemia, e.g. pernicious anaemia, chronic atrophic gastriits, Zollinger-Ellison syndrome and vitiligo, associated with diffuse hyperplasia of gastric enterochromaffin-like cells, and with an increased risk of developing multifocal gastric carcinoid tumours. The peptide can also be used to treat lung, colon and gastric cancers. Dosage is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The C-terminal is amidated. The peptide is an example of a highly generic formula for bombesin antagonists which are [psi8-9 pseudo] nonapeptides contg. D- or L-tryptophan or tryptophan analog 2,3,4,9-tetrahydro-1H-pyrido[3,4-b]-indol-3-carboxylic acid (Tpi)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New nona:peptide bombesin antagonists - used for treating hypergastrinaemic states, such as pernicious anaemia and zollinger-Ellison syndrome and also used against lung and gastric
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;
0
                                                                                                                                                                                                                                                                                                                                                                                    /label= psi
/note= "residues 7-8 are linked via a pseudo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 38; DB 13; Length 8;
Pred. No. 3.4e+05;
); Mismatches 1; Indels
                                                                                                                                                                                                                                                                         /note= "Hca-Gln; Hca= hydrocinnamic acid"
                                                                                                                                                                                                                                                                                                          /label= psi
/note= "residues 7-8 are linked via
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Mismatches
                                                                                                                                                             Bombesin; GRP; gastrin releasing peptide.
                                                                                                                                                                                                                                                                                                                                             peptide bond"
                                                                                                                                                                                                                                                                                                                                                                                                                          peptide bond"
                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Disclosure; Page 8; 50pp; English.
             AAR28456 standard; Protein; 8 AA.

    1000 mircrog/kg parenterally.

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     91WO-US08534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          90US-0619747
                                                                                     (first entry)
                                                                                                                          Bombesin antagonist (24)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best_Local Similarity 85.7
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Schally AV;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 1992-217019/26.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8 AA;
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                                                                                                                                                                                                                                                      Modified-site
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                                                                                     09-DEC-1992
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                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO9209626-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cancer, etc.
                                                                                                                                                                                               Synthetic
                                                AAR28456;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
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2 QWXVGHL 8

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Length 8;

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The patent discloses (1) the peptide sequence of bombesin (BBN), gastrin releasing peptide (GRP), Neuromedin B or Neuromedin C, the peptide sequence having a chlorambucil group attached to the amino terminal; (2) a BBN receptor antagonist of formula a RASn.RS-TRP-AR2-HS-LRP-CHECHIGH.

R4-His-Trp-Ala-R1-R2-His-R3-CO-CH2CH3; and (3) a BBN receptor antagonist of formula R4-Asn.RS-Trp-Ala-val-R2-His-CH-CO-CH2CH3.

In these formulae, R1 = Val or Thr; R2 = Gly or D-Ala; R3 = Leu or Phe; R4 = N-acetyl, bromoacetyl, chloroacetyl, [bis(2-chloroethyl)-caminol-L-phenylalanihe or a chlorambucil group; and R5 = Gln or His. The compounds act as potent BBN/GRP-like peptide antagonists. They can be used to inhibit the growth of cells that are sensitive to the growth-promotoning effects of BBN, GRP or a related peptide act such as pancreatic cells, gastric cells, neurons, hypothalamic cells and cancerous cells or tumours. They can also be used to inhibit the binding of BBN, GRP or a related peptide to cells capable of such binding of BBN, GRP or a related peptide to cells capable of such binding of BBN, GRP or a related peptide to cells capable of such binding of BBN, GRP or a related peptide to cells capable of such binding of BBN, GRP or a related peptide to cells capable of such binding of BBN, GRP or a related peptide to cells capable of such binding of BBN, GRP or a related peptide to cells capable of such binding of BBN, GRP or a related peptide to cells capable of such binding of BBN, GRP or a related peptide to cells capable of such binding of BBN, GRP or a related peptide to cells capable of such binding of BBN, GRP or a related peptide to cells capable of such binding of BBN, GRP or a related peptide to cells capable of such binding of BBN, GRP or a related peptide to cells capable of such binding of BBN, GRP or a related peptide or cells capable of such binding of BBN, GRP or a related peptide to cells capable of such binding of BBN, GRP or a related between the growth and companies or tumours. The terminal structure
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                bromoacetyl, chloroacetyl, [bis[2-chloroethyl)-amino]-
L-phenylalanine or a chlorambucil group"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New bombesin, gastrin releasing peptide or Neuromedin B or C derivs. antagonists for treating conditions such as gastrointestinal
                                                                                                                                                                                                                                   Bombesin; antagonist; chlorambucil; peptic ulcer; pancreatitis; eating disorder; diabetes; acromegaly; enterocutaneous fistula; psoriasis; growth retardation; gastrointestinal motility disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note= "The amino terminal is acylated with acetyl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note= "The carboxy terminal is in the form of an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Takahashi K;
                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (PEPT-) PEPTIDE TECHNOLOGIES CORP.
                                            AAW64910 standard; peptide; 8 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               disorders, psoriasis and cancers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 6; Page 34; 45pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ethyl ester'
                                                                                                                                                                                        Bombesin receptor antagonist.
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93US-0078062
                                                                                                                                         (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Chandrasekhar B,
                                                                                                                                                                                                                                                                                                                                                                                                          Key
Modified-site
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18-JUN-1993;
                                                                                                                                         06-JUL-1999
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                                                                                                                                                                                                                                                                                                                                                           Synthetic.
                                                                                            AAW64910;
8
                      AAW64910
RESULT
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inhibit or modulate over-expression of, e.g. VIP. A wide range of cur. cells express receptors for VIP, somatostatin, bombesin and/or substance. P. The present sequence represents bombesin antagonist (BOM1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The invention relates to a new composition which comprises: (i) the somatostatin analogue SOM2 AGCKNFFGWKTPTSGC (3-14 disulphide bridge), and (ii) at least 4 of the peptides: antagonist of wasoactive intestinal peptide (VIPI); VIP receptor-binding inhibitor (VIF: receptor antagonist (VIP3); somatostatin analogue (SOM1); bombe... antagonist (BOM1) and substance P antagonist (SP1). Also claimed attermore general compositions containing peptide analogues of somatostatin. VIP, bombesin and substance P. The compositions are used in human or veterinary medicine: (a) to kill (or inhibit multiplication ol) tumour or cancer cells, particularly for treatment of leukaemia, lymphoma, adenocarchnoma of stomach, pancreas or prostate, or cancer of lung, breast, kidney or particularly rectum and colon, and (b) to prev.ni inhibit or modulate over-expression of, e.g. VIP. A wide range of can.
                                                                                                                                                                                                                                                                                                                 : unpes, u:
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                                    Gaps
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tumours
                                  .
0
                                                                                                                                                                                                                                                                                                            Vasoactive intestinal peptide; VIP; antagonist; somatostal... Substance P; cancer; inhibition.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Composition containing analogues of vasoactive intestinal somatostatin - bombesin and substance P, for treatment of and for inhibiting over-expression of these peptide(s)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 38; DB 19; Length 8;
Pred. No. 3.4e+05;
0; Mismatches 1; Indels
Score 38; DB 16; Length 8; Pred. No. 3.4e+05;
                                1; Indels
                                0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                /note= "D-form residue"
                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                               AAW50941 standard; peptide; 8 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note= "Leu-NHEt"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 1; Page 4; 49pp; English.
95.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 95.0%;
Best Local Similarity 85.7%;
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (NAIM-) NAT INST IMMUNOLOGY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  96IN-0001822.
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                                                                                                                                                                                                                                                                               Bombesin antagonist (BOM1).
                                                                                                                                                                                                                                                (first entry)
                                  6; Conservative
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                 Best Local Similarity
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                                                                 2 QWXVGHL 8
                                                                                                                                                                                                                                                                                                                                                                                                                                               Modified-site
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2 qwavqhl
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                                                                                                                                                                                                                                                                                                                                                                Synthetic.
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                                Matches
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Vasoactive intestinal peptide; VIP; analogue; somatostatin; SOM1; SOM2; VIP1; VIP2; VIP3; BOM1; bombesin; SP1; substance P; MuJ-7; tumour growth.tumour angiogenesis; metastasis; cancer; angiogenesis; adenocarcinoma,
Asn, Glu, Gln, p-X-Phe, Trp, Cys, Met, Pro, Hypro or cyclohexylmusions on NR6R7; R3, R5, R6, R7 = H, lower alkyl, phenyl(lower alkyl) or naphthyl(lower alkyl); R1, R2 = H, 112C alkyl, 7-10C phenylalkyl or CoEl; where R1 and R2 are bonded to the N-terminal amino acid of the peptide; El = 1-20C alkyl, 3-20C alkenyl, 3-20C alkynyl, Ph, na; thyl other must be H. The peptides can be used for treating benign or malignant proliferation of tissue e.g. small-cell lung carcinoma, atheroscierosis, gastrointestinal discorders, and diabetes or diabetes analogues used in the method of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The present sequence represents an analogue of bombesin. The specification describes therapeutically active compositions comprising at least one analogue of somatostatin (chosen from SOM1 and SOM2), and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Burman AC, Rajendran P, Mathur A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Novel therapeutically active composition comprising at least 5 peptides, useful for treating angiogenesis especially as a result of adenocarcinomas -
                                                                                                                                                                                                                                                               95.0%; Score 38; DB 20; Length 8;
85.7%; Pred. No. 3.4e+05;
...marches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Amino acid sequence of bombesin analogue BOM1.
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Singh AT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Disclosure; Page 8; 42pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAB08302 standard; peptide; 8 AA.
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Best Local Similarity 85.7°,
-hag 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        11-FEB-2000; 2000WO-US03559
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(DABU-) DABUR RES FOUND.
(CORD/) CORD J I.
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2 qwavghl
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CH(Z2)-C(-O)V; R4 = CH2NH; Z1, Z2 = Gly, Ala, Val, Leu, Ile, Ser, Asp,
                                                                                                                                                                                                                                                                                            Bombesin; gastrin releasing peptide; GRP; GRF; litorin; proliferation; growth hormone releasing factor; treatment; benign; malignant; tissue; small-cell lung carcinoma; atherosclerosis; gastrointestinal disorder; diabetes; diabetes related retinopathy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New peptides - useful for treating benign or malignant tissue proliferation, gastrointestinal disorders and diabetes
                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note≈ "Residue is pyroglutamate"
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                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                        AAW92740 standard; peptide; 8 AA.
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                                                                                                                                                                                                                                                           Bombesin peptide analogue #6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               910S-0779039.
870S-0100571.
880S-017311.
880S-0204171.
88US-0207759.
88US-0248771.
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89US-0317941.
89US-0376555.
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94US-0337127
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qwavghl 8
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16-JUN-1988;
23-SEP-1988;
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07-JUL-1989;
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25-MAR-1988
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                                                                                                                                                                                                                                                                                                                                                                                        Synthetic.
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at least four analogues chosen from vasoactive intestinal peptide (VIP) I (a VIP antagonist), VIP2 (a VIP receptor binding inhibitor), VIP3 (a VIP receptor antagonist), MOMI (a bombesin antagonist), and SP1 (a substance P antagonist). The combination of these 7 analogues is known as MuJ-7. MuJ-7 is used as an anticancer drug to restrict tumour growth and spread metastasis through its antianglogenesis. MuJ-7, in addition, inhibits peptides are useful for the treatment and prevention of angiogenesis, especially as a result of adenocarcinomas of the colon, breast, lung,
                                                                                                                                                                                                                                               prostate, kidney, leukemias or lymphomas.
                                                                                                                                                                                                                                                                                                     8 AA;
                                                                                                                                                                                                                                                                                                     Sequence
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; ; Gaps ; Length 8; Score 38; DB 21; Length 8; Pred. No. 3.4e+05; 0; Mismatches 1; Indels 95.0%; 85.7%; Conservative Query Match Best Local Similarity Matches 6; Conserv

2 QWXVGHL 8

RESULT 12 AAB72406 AAB72406 standard; peptide; 8 AA. AAB72406;

03-MAY-2001

(first entry)

Bombesin analogue

transfer; gastrin releasing peptide receptor; GRPr; BBN. Gene therapy; gene bombesin analogue;

Unidentified

WO200112234-A1

22-FEB-2001

16-AUG-2000; 2000WO-US22456

16-AUG-1999; 99US-0374972, 01-JUN-2000; 2000US-0585194,

(UABR-) UAB RES FOUND.

Zinn KR, Rogers BE; Buchsbaum DJ, Curiel DT,

WPI; 2001-218310/22

Monitoring therapeutic gene transfer and expression into a subject, by administering vector encoding the gene and gene for membrane expressed targeting molecule, and a radiolabeled ligand, and imaging gene transfer

Example 10; Page 33; 107pp; English.

The present invention relates to a method for monitoring therapeutic gene transfer and expression into a subject, comprising administering a vector encoding a therapeutic gene and a gene for a membrane expressed targeting molecule (TM), and a radiolabelled ligand (RL) having high affinity for TM, and detecting the binding of RL with TM. The binding is directly proportional to the transfer and expression of the therapeutic gene. Preferably, the TM is gastrin releasing peptide receptor (GRPr). A technique was developed to image GRPr expression using a 99m~TC-labelled bombesin (BBN) analogue (the present sequence).

8 AA; Seguence

DB 11; Length 9;

95.0%; Score 38;

Query Match

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synthetic amino acid.
On binding to its receptor, the analogue acts as a competitum on binding to its receptor, the analogue acts as a competitum of inhibitor of the naturally occurring peptide but due to the modifications, fails to exhibit the normal in vivo biological activity. The peptides are useful for the treatment of benign or malignant proliferation of tissues, eg cancers of the gastrointestimal tract, pancreatic cancer, colon cancer, lung cancer or breast cancer; for the treatment of atherosclerosis; and disorders of the
                                  Saps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New non-cyclic analogues of mammalian gastrin releasing per and amphibian bombesin, used for cancer treatment eg small cell lung carcinoma, atherosclerosis and gastrointestinal dissipances.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The peptide has an active site and a binding site for bindin trarget cell receptor, and has one of the following modification of a residue within the active site and a modification of a residue outside of the active site; and (b) a replacement of lor 2 residues within the active site.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gastrointestinal tissues.
This peptide is a claimed example of a highly generic formula. See also AAR04525-R04533.
                                                                                                                                                                                                                                                                                        Mammalian gastrin releasing peptide; amphibian bombesin; c_{\alpha n} therapeutic peptides.
                                                                                                                                                                                                                                                          Non-cyclic analogue of amphibian bombesin and mammalian GRP
 Score 38; DB 22; Length 8; Pred. No. 3.4e+05;
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                             0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                             "D-p-C1"
                                                                                                                                                                                                                                                                                                                                                                                               /label= OTHER
95.0%;
85.7%;
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                               Conservative
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            Best_Local Similarity
Matches 6; Conserv
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AAR04529 standard; protein; 9 AA.

RESULT 15

AAR04529

AAR04529;

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The peptide has an active site and a binding site for binding to a target cell receptor, and has one of the following modifications:

(a) a deletion of a residue within the active site and a modification of a residue outside of the active site; and (b) a replacement of 1 or 2 residues within the active site; and synthetic amino acid.

On binding to its receptor, the analogue acts as a competitive inhibitor of the naturally occurring peptide but due to the modifications, fails to exhibit the normal in vivo biological activity.
                     Gaps
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                                                                                                                                                                                                                                                                               Mammalian gastrin releasing peptide; amphibian bombesin; cancer; therapeutic peptides.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The peptides are useful for the treatment of benign or malignant proliferation of tissues, eg cancers of the gastrointestinal tract, pancreatic cancer, colon cancer, lung cancer or breast cancer; for the treatment of atherosclerosis; and disorders of th
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gastrointestinal tissues.
This peptide is a claimed example of a highly generic formula.
See also AAR04525-R04533.
                                                                                                                                                                                                                                                    Non-cyclic analogue of amphibian bombesin and mammalian GRP.
                     Indels
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No. 3.4e+05;
smatches 1;
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                                                                                                                                                                                                                                                                                                                                                                                         /label= D-beta-naphthylalanine
                 0; Mismatches
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   Pred.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 12; Page 52; 68pp; English
85.7%;
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Best Local Similarity 85.7%;
Matches 6; Conservative
                                                                                                                                                                                                                      (first entry)
                 6; Conservative
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 Best Local Similarity
Matches 6; Conserv
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                                               2 QWXVGHL 8
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3 qwavghl 9
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Modified-site
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The peptide has an active site and a binding site for binding to a target cell receptor, and has one of the following modifications.

(a) a deletion of a residue within the active site, and a modification of a residue outside of the active site; and

(b) a replacement of 1 or 2 residues within the active site with a synthetic amino acid.

(b) a replacement of 1 or 2 residues within the active site with a on binding to its receptor, the analogue acts as a competitive on binding to its receptor, the analogue acts as a competitive modifications of the naturally occurring peptide but due to the modifications, fails to exhibit the normal in vivo biological activity.

The peptides are useful for the treatment of benign or malignant proliferation of tissues, eg cancers of the gastrointestinal track, pancreatic cancer, colon cancer, lung cancer or breast cancer; for the treatment of atherosclerosis; and disorders of the gastrointestinal tissues.
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                                                                                                              {\tt Mammalian} gastrin releasing peptide; amphibian bombesin; cancer; therapeutic peptides.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     and amphibian bombesin, used for cancer treatment eg small cell lung carcinoma, atherosclerosis and gastrointestinal disc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This peptide is a claimed example of a highly generic formula.
See also AAR04525-R04533.
                                                                              Non-cyclic analogue of amphibian bombesin and mammalian GRP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 38; DB 11; Length 9;
Pred. No. 3.4e+05;
0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New non-cyclic analogues of mammalian gastrin releasing
                                                                                                                                                                                                                                                                                                                                                                                                                      89US-0397169, US-257998; WO-U0416
                                                                                                                                                                                                                                                          /label=leucine psi[CH2NH]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SH;
                                                                                                                                                                                                                          /label= D-phenylalanine
                                                                                                                                                                                                                                                                                        /label= D-phenylalanine
                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 15; Page 52; 68pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                    (TULA ) TULANE E FUND ADMINISTRA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Taylor JE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        95.0%;
85.7%;
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                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Coy DH, Moreau J-P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 1990-147822/19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best_Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C-terminal = NH2.
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                                                                                                                                                                                            Key
Modified-site
                                                                                                                                                                                                                                       Modified-site
                                                                                                                                                                                                                                                                       Modified-site
                                                                                                                                                                                                                                                                                                                                                                                      13-OCT-1989;
                                                                                                                                                                                                                                                                                                                                                                                                                      21-AUG-1989;
                                                24-SEP-1990
                                                                                                                                                                                                                                                                                                                      WO9003980-A.
                                                                                                                                                             Synthetic.
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Gaps

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2 QWXVGHL 8 || || || || 2 qwavghl 8 Q D

Search completed: October 25, 2001, 11:22:45 Job time: 218 sec

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(D-Alall)-bombesin
Bombesin/gastrin r
Bombesin analog pe
Linear litorin ana
Linear litorin ana
Bombesin analogue
Bombesin analogue
Bombesin analogue
Bombesin receptor
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Sequence of new ne
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Antagonist of bomb
                                                                                                                                    Search time 129.78 Seconds (without alignments) 3.737 Million cell updates/sec
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GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
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                                                                                                                                                                                                                                                                                                                                                                                                    412676 seqs, 60623988 residues
                                                                                                                                    October 25, 2001, 11:22:45;
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Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAR40907
AAP91147
AAR20585
AAR32998
AAW94610
AAW94610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAR11241
AAR11242
AAR29155
AAR29157
AAW64911
                                                                                        - protein search, using sw model
                                                                                                                                                                                                                                                                                                                             BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               seq length: 0 seq length: 2000000000
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28
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Match
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                                                                                                                                                                                                                                                                                                                               Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Minimum DB
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                                                                                                                                                                                                                                                                                 Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                    Searched:
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14	23	82.1	σ	12	AAR14865	Peptium analogue r
15	23	82.1	6	12	AAR14866	Peptide analoque #
16	23	82.1	σ	12	AAR14867	Peptide analogue #
17	23	82.1	6	12	AAR14873	
18	23	82.1	σ	14	AAR40903	analogii
19	23	82.1	0	19	AAW51195	. 7
20	23	82.1	0	19	AAW51201	
21	23	82.1	10	10	AAP96113	
22	23	82.1	24	19	AAW75003	Human secreted pro
23	23	82.1	180	20	AAY37918	Amino acid sequenc
24	23	82.1	218	21	AAB58984	Breast and ovarian
25	23		396	21	AAY75289	-
26	23	82.1	200	20	AAY00207	Enterorous taec
27	23	82.1	531	21	AAY59404	Human RICK protei
28	23	82.1	540	20	AAY31140	Human CARD-3 prote
29	23	82.1	540	20	AAW92795	Human Bl protein.
30	23	82.1	540	21	AAY68774	Amino acià sequene
31	23	82.1	540	22	AAB20079	Human CARD-3 prote
32	23	82.1	544	21	AAB43570	Human cancer assoc
33	23	82.1	168	50	AAW98108	Caenorhabdit. cl.
34	23	82.1	935	21	AAB07570	Protein encode,
35	23	82.1	1074	20	AAY00206	Enterococcus tak
36	23	82.1	1074	70	AAY00188	Enterococcus faeca
37	22	78.6	7	22	AAB48341	Bombesin/gastrin-r
38	22	9.82	80	1	AAR04531 ·	•
39	22	78.6	8	12	AAR11224	Linear 'itorin ar'
40	22	78.6	80	12	AAR11240	Linear litorin and
41	22	78.6	80	12	AAR14877	Peptide analogue #
	22	9.82	æ	13	AAR28456	Bombesi, antagoni:
	22	78.6	œ	13	AAR28459	Bombe: intaginis
44	22	78.6	œ	16	191	Bombes:11. eccptor
	22	78.6	œ	22	AAB72406	Bombesin analogue
					SENGMINUTIE	
RESULT 1						
07						
ID AAR40907		standard;	peptide;	de;	9 AA.	
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Bombesin; analogue; antagonist; agonist; antimitotic; anti-secretory; activity; digestion; food intake; tissue growth; lung; pancreas; intestine; ulcer; cancer.
                                                                                                      Location/Qualifiers
                                                                                                                                                                                                            (RICH ) MERRELL DOW PHARM INC.
                                                                                                                       /label= OTHER
                                                                                                                             /note= "Glp"
                                                                                                                                                                               93WO-US00183,
                      10-FEB-1994 (first entry)
                                                                                                                                                                                                                             Edwards JV, Fanger BO;
                                       Bombesin analogue #9.
                                                                                                       Key
Modified-site
                                                                                                                                                                             07-JAN-1993;
                                                                                                                                                                                             07-FEB-1992;
                                                                                                                                              WO9316105-A
                                                                                                                                                              19-AUG-1993.
                                                                                      Synthetic.
      AAR40907;
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WPI; 1993-272830/34.

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Bombesin antagonist; malignant disease; therapy; gastric acid secretion.
                                                                                    The sequences given in AAR40899-908 are bombesin analogues. These peptides were prepared by solid phase sequential or block synthesis. These peptides act as bombesin antigonists or agonists and have antimitotic and/or anti-secretory activity. They may be used for stimulating digestion in patients, decreasing food intake in patients or stimulating growth of organ tissue of lung, pancreatic or intestinal origin in patients. They can be used for the treatment of gastrointestinal and pancreatic ulcers and for the treatment of
            Bombesin analogues contg. modified phenylalanine derivs. - used for stimulating digestion, decreasing food intake and stimulating growth of organ tissues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New Neuromedin C polypeptide derivs, - are potent bombesin antagonist used for treating malignant disease and conditions associated with gastrin or gastric acid
                                                                                                                                                                                                                                                        Score 24; DB 14; Length 9;
Pred. No. 3.4e+05;
0; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hayward CF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence of new neuromedin C deriv.
                                                             Example 1; Page 43; 54pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                   AAP91147 standard; protein; 7 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /label=OTHER
/note="Ac-D-Gln"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /label=OTHER
/note="Leu-OMe"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note="D-Ala"
                                                                                                                                                                                                                                                          85.7%;
71.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /label=OTHER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         88EP-0310094.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                    Local Similarity 71.4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Cotton R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 1989-139341/19
                                                                                                                                                                                                                   9 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Misc-difference
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                                                                                                                                                                                                                                                                                                          2 QXAVXHL 8
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3 qtavghl 9
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22-DEC-1990
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                                                                                                                                                                                                                   Sequence
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                                                                                                                                                                                                                                                           ery Match
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Matches
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           It is a potent bombesin antagonist. It may be used for the treat of e.g. malignant disease, conditions associated with the over-produ. Of bombesin and conditions associated with failure of normal physiological control of the regulation of gastric acid secretion.
                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The peptide is modified at the N-terminal with a lauryl, palmitoyl cor esp. an octanoyl gp. The Leu at position 7 may be absent. The C-terminal (Leu or His) is amidated. The peptides and herived salts can be used to treat small cell lung carcinoma, prostatic carcinoma, tumour tissue growth, peptide ulcers, cancer and assorated conditions, and to effect antagonism of bombesin/gastrin releasing peptide. Dosage is 0.2-250 mg/kg daily in 1-4 doses, at 5-200 mg/dose.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New peptide bombesin-GRP antagonists - used as antitumour agents to treat e.g. leukaemia, small cell lung and prostatic carcing and to inhibit gastric acid secretion.
                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                                         Length 7;
                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     82.1%; Score 23; DB 13; Length 7; llarity 71.4%; Pred. No. 3.4e+05; Conservative 0; Mismatches 2; Indels
                                                                                                                      Score 23; DB 10; L
Pred. No. 3.4e+05;
0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                           7 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 7; Page 12; 14pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note= "D-Ala"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (RICH ) MERRELL DOW PHARM INC
                                                                                                                     82.18;
ilarity 71.48;
Conservative
                                                                                                                                                                                                                                                                       AAR20585 standard; Peptide;
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                                                                                                                                                                                                                                                                                                                                                                                  Antitumour agent; leukaemia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    91EP-0112504
                                                                                                                                                                                                                                                                                                                                                           Antagonist of bombesin/GRP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 1992-034251/05
                                                                                                                                  Best Local Similarity
Matches 5; Conserv
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                                                                                                                                                                                            | || ||
1 qwavahl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   25-JUL-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              26-JUL-1990;
                                                                                                                                                                                                                                                                                                                              07-MAY-1992
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EP468497-A.
                                                                                                                                                                                                                                                                                                                                                                                                               Synthetic
                                                                               Sequence
                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                    AAR20585;
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Matches
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2 QXAVXHL 8

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Disclosure; Page 929; 49pp; English

secretion

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Bombesin; gastrin releasing peptide; GRP; inhibitor; antagonist; small cell lung carcinoma; tumour; frog; antimitotic; antisecretory;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New peptide antagonists of bombesin or gastrin releasing peptide are useful as antimitotic and antisecretory agents in treating, e.g., small cell lung carcinoma or peptic ulcers
                                                                                     Bombesin/gastrin releasing peptide type inhibitor peptide #.
           AAW94610 standard; peptide; 7 AA.
                                                              27-APR-1999 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                               (RICH ) MERRELL PHARM INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 1999-141255/12.
                                                                                                                                                               Synthetic.
Bombina bombina
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Krstenansky JL;
                                                                                                                                                                                                                   Modified-site
                                                                                                                                                                                                                                                        Modified-site
                                                                                                                                                                                                                                                                                                                                                                                26-JUL-1990;
21-JUL-1994;
23-MAY-1995;
23-FEB-1996;
                                                                                                                                         peptic ulcer.
                                                                                                                                                                                                                                                                                                                                             23-FEB-1996;
                                                                                                                                                                                                                                                                                                                                                                     24-JUL-1991;
                                                                                                                                                                                                                                                                                            US5834433-A
                                                                                                                                                                                                                                                                                                                    10-NOV-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Seguence
                                      AAW94610;
 AAW94610
                         The peptides in this example are bombesin analogues. The peptides were tested in a competitive binding assay and a Phosphatidyl Inositol (PI)-turnover assay in mouse pancreas. None of the peptides demonstrated agonist activity but all inhibited PI-turnover (c.f. stimulation produced by 100hM GRP). Analogues of bombesin are potentially useful for growth therapy and the treatment of digestive disorders, e.g. for stimulating digestion, stimulating growth of tissue in the lung, pancreas and intestine, stimulating MK cell activity against tumour cells and stimulating growth of tumours to increase susceptibility to chemotherapeutic agents.
                                                                                                                                                                                                                                                                              /note= "N-alpha-acetyl-Gln, N-alpha-octyl-Gln, N-alpha-palmityl-Gln or N-alpha-palmityl-Gln"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New bombesin peptide agonists and antagonists - stimulate or inhibit digestion, increase susceptibility of tumours to chemotherapeutic agents, treat gastric ulcers and tumours etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity 71.4%; Score 23; DB 13; Length 7; Similarity 71.4%; Pred. No. 3.4e+05; 5; Conservative 0; Mismatches 2; Indels
                                                                                                                                                                            Intracellular signal; inhibition; gastrointestinal tract; litorin; Gastrin Releasing Peptide; GRP.
                                                                                                                                                   [D-Alal1]-bombesin(7-13)amide derivs.
                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                            /note= "amidated"
                                                                        AAR32998 standard; peptide; 7 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Example; Page 40; 64pp; English.
                                                                                                                                                                                                                                                                                                                    /note= "D-Ala"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (RICH ) MERRELL DOW PHARM INC.
                                                                                                                                                                                                                                                                   /label= OTHER
                                                                                                                                                                                                                                                                                                                                                                                                                                              91US-0704863.
                                                                                                                                                                                                                                                                                                                                                                                                                     92WO-US03287
                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Edwards JV, Fanger BO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 1992-415707/50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                7 AA;
                                                                                                                                                                                                                                                                                                       Misc-difference
| || || || 1
| qwavah| 7
                                                                                                                                                                                                                                          Key
Modified-site
                                                                                                                                                                                                                                                                                                                                Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                      21-APR-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                            23-MAY-1991;
                                                                                                                          13-APR-1993
                                                                                                                                                                                                                                                                                                                                                                    WO9220707-A.
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                                                                                                                                                                                                                 Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                 AAR32998;
                                                                                                                                                                                                                                                                               BSSSSSSSSSX8
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90US-0558031. 94US-0278692. 95US-0447528.

96US-0960130

96US-0960130 91US-0735402

/note= "optionally modified by octanoyl, lauroyl or palmitoyl"

/note= "amidated"

Location/Qualifiers

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The present sequence represents a bombesin/gastrin releasing puptide type inhibitor peptide. The peptide may be used as an antimitoric and antisecretory peptide. It can control growth of small cell lany and prostatic carcinomas, and it can also inhibit gastric secretions which are causative and symptomatic of peptic ulcers. Administration may be oral but is preferably subcutaneous, intravenous, intranuscular or intraperitoneal, by depot injection, by implant preparation or by application to the mucous membranes (e.g. of the nose or bronchial tubes) by aerosol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ÷
                                                                                                                                                                                                                                                                                                                                                                                                                           Score 23; DB 20; Length 7; Pred. No. 3.4e+05; 0; Mismatches 2; Indels
Claim 5; Column 14; 9pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAP20294 standard; peptide; 8 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 82.1%;
Best Local Similarity 71.4%;
Matches 5; Conservative (
                                                                                                                                                                                                                                                                                                                                           7 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 QXAVXHL 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | || || ||
1 qwavahl 7
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AAP20294
ID AAP20
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Gaps

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| || || qwavahl 7 2 OXAVXHL 8

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RESULT

7

AAP20294;

Synthetic

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This peptide is a specifically claimed example of a generic formula. The C-terminal amino acid (Met) of the naturally occur, opeptide has been converted to a amide and phe 8 has been replaced by beta-Leu. Gry 6 has also been replaced by D-Ala. The peptide is useful for treating benign or malignant tissue proliferation, artheresclerosis, gastrointestinal disorders and diabetes. They act as competitive inhibitors of natural peptides, since they bind to the cell receptors but have no biological
                                                                                                                                                                                                                           New linear peptide analogues of bombesin - modified to eliminate biological activity while retaining receptor affinity, for treating cancer, diabetes, etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bombesin; litorin analogue; linear; receptor affinity; cancel;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         The analogue may also be of a naturally occurring peptide terminating at the C-terminus with a Met residue, such as the 10 amino acid C-terminal region of mammalian GRP or amphibian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 23; DB 12; L4
Pred. No. 3.4e+05;
0; Mismatches 2;
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/label=D-Phe, pentafluoro-Phe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               6..6
/label= N-methyl-D-Ala
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                   (TULA ) ADMIN TULANE EDUCATIONAL. (BIOM-) BIOMEASURE INC.
                                                                                                                                                                                                                                                                                         Claim 18; Page 54; 58pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAR11242 standard; Protein; 8 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               82.1%;
71.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Linear litorin analogue (IV).
                                           90WO-US04646.
                                                                                                                                                                   Kim SH;
                                                                           89US-0397169
                                                                                       90US-0502438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  See also AAR11239-242.
                                                                                                                                                                                              WPI; 1991-087241/12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8 AA;
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                                           17-AUG-1990;
                                                                       21-AUG-1989;
30-MAR-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | || ||
2 qwavahl
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            07-MAR-1991
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAR11242;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         diabetes.
                                                                                                                                                                 Coy DH,
                                                                                                                                                                                                                                                                                                                                                                                                                                            activity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The peptide may be preceded by a formyl, acetyl, propionyl, acrylyl or benzoyl group at its C-terminal. The peptide may be used for reducing the body temp. of a mammal, as well as for inducing analgesia. It produces hypothermia when injected i.c., but not when given i.v. or s.c. See also AAP20291-3.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    82.1%; Score 23; DB 3; Length 8; 71.4%; Pred. No. 3.4e+05; Live 0; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Octa:peptide bombesin analogues - having hypothermic and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1..1
/label= D-p-chloro-phenylalanine
                                                                                                                                               Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                            Brown MR, Rivier JEF;
                                                                                    Bombesin; hypothermic; analgesic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAR11241 standard; Protein; 8 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 8; Column 8; 5pp; English.
                                                                                                                                                                   /label= D-Glu
5
                                                                                                                                                                                                                                                                                                                                                                                                                       (48049E)
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                                                                                                                                                                                                           /label= D-Ala
                                                                                                                                                                                                                                                                                                   80US-0193621
                                                                                                                                                                                                                                                                                                                                                              (SALK-) SALK INST BIOLOGICA.
                                                                                                                                                                                                                                                                                                                               80US-0193621
                         (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 82.1
Best Local Similarity 71.4
Matches 5; Conservative
                                                      Bombesin analog peptide.
                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 1982-48049E/23
                                                                                                                                                            Misc-difference 1
                                                                                                                                                                                         Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       analgesic props
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 QXAVXHL 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 qwavahl 7
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Modified-site
                                                                                                                                                                                                                                                                                                   03-OCT-1980;
                                                                                                                                                                                                                                                                                                                               03-OCT-1980;
                       09-DEC-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  17-MAY-1991
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Sequence

Synthetic.

diabetes

AAR11241;

AAR11241 RESULT

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Marki WE,

Gapo

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us-09-630-333-5.rag

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The peptide is an example of a highly generic formula. It is used in a medicament for treating hepatoma. The cpd. acts as antagonist to bombesin, which has been detected in a number of human cancer
                                                                                                                                    Treatment of hepatoma - by admin. of admixed bombesin analoguable carrier
                                                                                                                                                                                                                                                                                                                                                                                   Score 23; DB 13; Length 8;
Pred. No. 3.4e+05;
0; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The peptide is an example of a highly generic formula.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Treatment of hepatoma - by admin. of admixed bombesin with carrier
                                                                           Moreau J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note= "D-form residue"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Coy DH, Kim SH, Moreau J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hepatoma; liver cancer; antagonist.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note= "D-F5-Phe"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAR29157 standard; peptide; 8 AA.
                                                                                                                                                                                                 Claim 14; Page 48; 54pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 15; Page 48; 54pp; English
                      (BIOM-) BIOMEASURE INC.
(TULA ) TULANE EDUCATIONAL FUND.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note= "Leu-OMe"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (BIOM-) BIOMEASURE INC. (TULA) TULANE EDUCATIONAL FUND.
                                                                                                                                                                                                                                                                                                                                                                               82.1%;
nilarity 71.4%;
Conservative 0;
                                                                         Coy DH, Kim SH,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 92WO-US03916.
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                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity
nes 5; Conser
                                                                                                                                                                                                                                                                                                                                8 AA;
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2 qwavahl 8
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                                                                           Bodgen AE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Synthetic,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAR29157;
                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                          Best Loca
Matches
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0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                        These peptides are specifically claimed examples of a generic formula. The C-terminal amino acid (Met) of the naturally occurring peptide has been converted to a methylester.

The peptide is useful for treating benign or malignant tissue proliferation, artherosclerosis, gastrointestinal disorders and diabetes. They act as competitive inhibitors of natural peptides, alnow they bind to the call receptors but have no blological
                                                                                                                                                                                                                New linear peptide analogues of bombesin - modified to eliminate biological activity while retaining receptor affinity, for treating cancer, diabetes, etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The analogue may also be of a naturally occurring peptide terminating at the C-terminus with a Met residue, such as the 10 amino acid C-terminal region of mammalian GRP or amphibian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 23; DB 12; Length 8; Pred. No. 3.4e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      'note= "D-form residue"
                                                                                                                                                                                                                                                                                      Claim 20+21; Page 54; 58pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hepatoma; liver cancer; antagonist
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          'note= "NMe-D-Ala"
                                                                                       (TULA ) ADMIN TULANE EDUCATIONAL.
(BIOM-) BIOMEASURE INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAR29155 standard; peptide; 8 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        82.1%;
llarity 71.4%;
Conservative (
 90WO-US04646.
                                                                                                                                              Kim SH;
                                    89US-0397169.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               See also AAR11239-242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bombesin analogue (5)
                                                                                                                                                Moreau JP,
                                                                                                                                                                                WPI; 1991-087241/12.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8 AA;
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2 qwavahl 8
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17-AUG-1990;
                                    21-AUG-1989;
30-MAR-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        11-MAY-1992;
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AAR29155

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21-JUL-1988;
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_L-phenylalanine or a chlorambucil group"
                                                                                               Gaps
in a medicament for treating hepatoma. The cpd. acts as antagonist to bombesin, which has been detected in a number of human cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New bombesin, gastrin releasing peptide or Neuromedin B or C derivs. - antagonists for treating conditions such as gastrointestinal disorders, psoriasis and cancers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The patent discloses (1) the peptide sequence of bombesin (BBN), gastrin releasing peptide (GRP), Neuromedin B or Neuromedin C, the peptide sequence having a chlorambucil group attached to the amino terminal; (2) a BBN receptor antagonist of formula amino terminal; (2) a BBN receptor antagonist of formula antagonist of formula R4-ASn-R5-Trp-Ala-Val-R2-His-Leu-CO-CH2CH3. In these formulae, RI = Val or Thr; R2 = Gly or D-Ala; R3 = Leu or Phe; R4 = N-acetyl, bronoacetyl, chloroacetyl, (bis(2-chloroethyl)) emino]-L-phenylalanine or a chlorambucil group; and R5 = Gln or His. The compounds act as potent BBN/GRP-like peptide antagonists. They
                                                                                                                                                                                                                                                                          Bombesin; antagonist; chlorambucil; peptic ulcer; pancreatitis; eating disorder; diabetes; acromegaly; enterocutaneous fistula; psoriasis; growth retardation; gastrointestinal motility disorder;
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                                                                                                                                                                                                                                                                                                                                                                                                       /note= "The carboxy terminal is in the form of ethyl ester"
                                                                       Score 23; DB 13; Length 8;
Pred. No. 3.4e+05;
); Mismatches 2; Indels
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                                                                                                                                                                                       AAW64911 standard; peptide; 8 AA.
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                                                                                            0;
                                                                        82.18;
71.48;
                                                                                                                                                                                                                                                       Bombesin receptor antagonist.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Chandrasekhar B, Knight M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  94WO-US06757
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                                                                                                                                                                                                                                 (first entry)
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Best Local Similarity
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18-JUN-1993;
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can be used to inhibit the growth of cells that are sensitive to the growth-promoting effects of BBN, GRP or a related peptide such as pancreatic cells, gastric cells, neurons, hypothalamic cells and cancerous cells or tumours. They can also be used to inhibit the binding of BBN, GRP or a related peptide to cells capable of such binding. They can be used for treating e.g. peptic ulcer, pancreau, eating disorders, diabetes, acromegaly, entercoutaneous fistula psoriasis, growth retardation, gastrointestinal motility disorders cutumours. The terminal structures of the compounds protect them from in vivo proteolysis and provide highly potent antagonist effects that persist for extended periods of time upon administration.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
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(a) pharmaceutical prepn. of a peptide of the invention; (b) prepn. of the peptides.
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O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence of Bombesin receptor peptide ligand with irreversible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bombesin receptor peptide ligands with irreversible effects agonists and antagonists both weak and strong
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 23; DB 16; L. Pred. No. 3.4e+05; 0; Mismatches 2;
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/label= Met-NH2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               82.1%;
71.4%;
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88GB-0017379.
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Best Local Similarity
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The C-terminal residue is amidated. This peptide is one of z specific examples of a highly generic formula. The peptides are an analogues of either litorin; the 10 amino acid C-terminal region of mammalian GRP, neuromedin B or neuromedin C; or the 10 amino acid C-terminal region of amphibian bombesin. They act as at least partial agonists of the natural peptides. The peptide analogues are made by standard methods of synthesis and can be cyclised.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Peptide agonists of litorin, gastrin releasing peptide neuromedin B or C or bombesin, for treating cancer, prevent, smooth muscle proliferation and suppressing appetite and alcohol
                                                                                        tissue proliferation; gastrin related peptide; peptide hormone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Peptide analogue #7 of litorin, GRP, neuromedin or bombesin
                                                         Peptide analogue #6 of litorin, GRP, neuromedin or bombesi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         tissue proliferation; gastrin related peptide; peptide hom
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71.4%; Pred. No. 3.4e+05;
iive 0; Mismatches 2;
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                                                                                                                                                                                                            /label= D-Ala
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(BIOM-) BIOMEASURE INC.
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                                                                                                                                                                                                                                                                      Example of peptide agonist of GRP, neuromedin, bombesin and litorin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This is a peptide analogue of mammalian gastrin releasing peptide (GRP), neuromedin-B or -C, amphibian bombesin and litorin. It is an agonist of these cpds. and is used to treat smooth muscle proliferation and cancer of the prostate, breast or lung.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Treatment of non malignant proliferative disease and cancer administration of natural peptide or fragment selected from gastrin-releasing peptide, neuromedin, amphibian bombesin or
Score 23; DB 11; Length 9; Pred. No. 3.4e+05;
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Pred. No. 3.4e+05;
0; Mismatches 2;
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                                                                                                                                                                                                                                                                                                Non-malignant proliferative disease; cancer
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See also AAR11519-21 and AAR11523-30.
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             82.1%;
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89US-0408125.
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Best Local Similarity 71.4
Matches 5; Conservative
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21-NOV-1989;
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AAR14865 ID AAR1 XX AC AAR1

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The C-terminal residue is amidated. This peptide is one of 27 specific examples of a highly generic formula. The peptides are all analogues of either litorin; the 10 amino acid C-terminal region of mammalian GRP, neuromedin B or neuromedin C; or the 10 amino acid C-terminal region of amphibian bombesin. They act as at least partial agonists of the natural peptides. The peptide analogues are made by standard methods of synthesis and can be cyclised.
                                                                                                                                                                                                                                                                                  Peptide agonists of litorin, gastrin releasing peptide -
neuromedin B or C or bombesin, for treating cancer, preventing
smooth muscle proliferation and suppressing appetite and alcohol
                                                                                                                                                                                    (TULA ) TULANE E FUND ADMINISTRA. (BIOM-) BIOMEASURE INC.
                                                                                                                                                                                                                                                                                                                                                       Claim 9; Page 18; 25pp; English.
               /label= D-Phe
                                           /label= D-Ala
                                                                                                                                                                                                                              Coy DH, Kim SH, Moreau JP;
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search completed: October 25, 2001, 11:22:46 Job time: 219 sec

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Query Match 85.7%;
Best Local Similarity 71.4%;
Matches 5; Conservative
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Patent No. 5217955
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Sequence 9,
Patent No. 52
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Compugen Ltd
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US-07-619-747B-12
US-07-619-747B-12
US-07-619-747B-14
US-07-619-747B-14
US-07-619-747B-14
US-07-619-747B-14
US-07-619-747B-17
US-07-619-747B-17
US-07-619-747B-17
US-07-619-747B-17
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PCT-US93-00183-12
US-08-168-390-12
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5217955-13
5217955-14
5217955-14
5217955-22
US-09-019-942-1
US-08-168-390-11
US-08-337-127-9
                                                                                                                                                                  al number of hits satisfying chosen parameters:
                                                                                                                                                 197339 seqs, 20590346 residues
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       version
- 2000
                                                       October 25, 2001, 11:23:56
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Maximum Match 100%
Listing first 45 summaries
                                        sw model
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Gapop 10.0 , Gapext 0.5
      GenCore
Copyright (c) 1993
                                       - protein search, using
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length: 2000000000
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28
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Maximum DB
                                       OM protein
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Patent No. 5428018
GENERAL INFORMATION:
APPLICANT: Edwards, Judson V
APPLICANT: Franger, Bradford D
TITLE OF INVENTION: Phenylalanine Analogs of Bombesin NUMBER OF SEQUENCES: 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDIUM TYPE: Floppy disk
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/263,905
FILING DATE: 22-JUN-1994
PLIOR APPLICATION 514
PRIOR APPLICATION STATE:
APPLICATION NUMBER: US 07/833,834
FILING DATE: 07-FEB-1992
ATTORNEY/AGENT INFORMATION:
NAME: COllier, Kenneth J
REGISTRATION NUMBER: 34,982
US-07-619-747B-23
US-07-619-747B-24
US-07-619-747B-25
US-07-619-747B-26
US-07-619-747B-29
US-07-619-747B-29
US-07-619-747B-39
US-07-619-747B-31
US-07-619-747B-31
US-07-619-747B-33
US-07-619-747B-33
US-07-619-747B-35
US-07-619-747B-35
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US-07-619-747B-35
US-07-619-747B-35
US-07-619-747B-35
US-07-619-747B-36
US-07-619-747B-36
US-07-619-747B-36
US-07-619-747B-38
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CORRESPONDENCE ADDRESS:
ADDRESSE: Marion Merrell Dow Inc.
STREET: 2110 East Galbraith Rd.
CITY: Cincinnati P. O. Box 15639
STATE: Ohio
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE/DOCKET NUMBER: M01614 US TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEPHONE: (513) 948-7834
TELEFAX: (513) 948-7961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEX: 214320
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ZIP: 45215-6300
COMPUTER READABLE FORM:
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Length 9;

Score 24; DB 1; L6 Pred. No. 1.5e+05; 0; Mismatches 2;

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comprises one of several chemical end cups.
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TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG
OR BOMBESIN, GRP, LITTORIN OR NEUROMEDIN
NUMBER OF SEQUENCES: 42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 23; DB 1; Length 8;
Pred. No. 1.5e+05;
0; Mismatches 2; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 23; DB 6; Length 8;
Pred. No. 1.5e+05;
0; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note= "The carboxy-terminal residue comprises an ethyl ester.
      COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note= "The alanine at posis dextrorotatory alanine
                                                                                                                                                ATTORNEY AGENT INFORMATION:
NAME: Goldstein, Jorge A.
REGISTRATION NUMBER: 29,021
REFERENCE/DOCKET NUMBER: 0971.0040001
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 371-2600
TELEFAX: 248636 SSK
INFORMATION FOR SEQ ID NO: 12:
SEQUENCE CHARACTERISTICS:
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APPLICATION NUMBER: US/08/520,225
FILING DATE: 09-MAY-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 440,039
FILING DATE: 21-NOV-1989
APPLICATION NUMBER: 408,125
FILING DATE: 15-SEP-1989
                                                                  CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/168,390
FILING DATE: Herewith
CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 82.1%;
Best Local Similarity 71.4%;
Matches 5; Conservative
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Best Local Similarity 71.4%;
Matches 5; Conservative
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LOCATION: 1
OTHER INFORMATION: /note
OTHER INFORMATION: compr
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                                                                                                                                                                                                                                                                                                                                                                     LENGTH: 8 amino acids
TYPE: amino acid
TOPOLOGY: linear
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; OTHER INFORMATION:
US-08-168-390-12
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OTHER INFORMATION:
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2 QWAVAHL 8
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LOCATION:
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5217955-35
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APPLICANT: Takahashi, Kazayuki
APPLICANT: Takahashi, Kazayuki
APPLICANT: Chandrasekhar, Bhaskar
APPLICANT: Chandrasekhar, Bhaskar
TITLE OF INVENTION: Bombesln/Gastrin Releasing Peptide Antagonists
NUMBER OF SEQUENCES: 16
CORRESPONDENCE ADDRESS:
ADDRESSEE: Sterne, Kessler, Goldstein & Fox
STREET: 1100 New York Avenue, Suite 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
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Pred. No. 1.5e+05;
0; Mismatches 2; Indels
                                                                                                                                                                    APPLICANT: Edwards, Judson V
APPLICANT: Fanger, Bradford D
TITLE OF INVENTION: Phenylalanine Analogs of Bombesin
NUMBER OF SECUENCES: 12
CORRESPONDENCE ADDRESS:
ADDRESSEE: Marion Merrell Dow Inc.
STREET: 2110 East Galbraith Rd.
CITY: Cincinnati P. O. Box 156300
                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: Patentin Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US93/00183 FILING DATE: 19930107 CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Collier Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME: Collier, Kenneth J
REGISTRATION NUMBER: 34,982
REFERENCE/DOCKET NUMBER: M01614 US
TELECOMMUNICATION INFORMATION:
TELERONE (513) 948-7834
TELERAX: (513) 948-7834
TELERAX: (513) 948-7961
INFORMATION FOR SEQ ID NO: 12:
SEQUENCE CHARACTERISTICS:
LENGTH: 9 amino acids
                                                                                                                            Sequence 12, Application PC/TUS9300183 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                ZIP: 45215-6300
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 12, Application US/08168390 Patent No. 5620955 GENERAL INFORMATION:
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71.4%;
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
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Best Local Similarity 71.4
atches 5; Conservative
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                                                                                                                                                                                                                                                                                                                      CIT:.
STATE: Oh.
COUNTRY: USA
TTO: 45215-6300
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1 || || || 3 QTAVGHL 9
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3 QTAVGHL 9
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Gillis

Gaps

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Patent No. 5217955

APPLICANT: aBOGDEN, ARTHUR E.; MOREAU, JACQUES-PIERRE
TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG
OF BOMBESIN, GRP, LITORIN OR NEUROMEDIN
NUMBER OF SEQUENCES: 42
CURRENT APPLICATION UNMER: US/08/520,225
FILING DATE: 09-MAY-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 440,039
FILING DATE: 21-NOV-1989
SPILING DATE: 21-NOV-1989
FILING DATE: 11-NOV-1989
FILING DATE: 11-SEP-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 9
5217955-22
; Patent No. 5217955
; PATENT: aBOGDEN, ARTHUR E.; MOREAU, JACQUES-PIERRE
; TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG
; OF BOMBESIN, GRP, LITORIN OR NEUROMEDIN
NUMBER OF SEQUENCES: 42
; CURRENT APPLICATION DATA:
APPLICATION NUMBER: 05-MAY-1990
; PRIOR APPLICATION DATA:
APPLICATION NUMBER: 440,039
; FILING DATE: 21-NOV-1989
; APPLICATION NUMBER: 408,125
; FILING DATE: 15-SEP-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 9;
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                                                                                                                                                   Length 9;
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Pred. No. 1.5e+05;
0; Mismatches 2;
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Pred. No. 1.5e+05;
0; Mismatches 2;
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0
 FILING DATE: 21-NOV-1989
APPLICATION NUMBER: 408,125
FILING DATE: 15-SEP-1989
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71.4%;
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llarity 71.4%;
Conservative
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Best Local Similarity 71...
Best Conservative
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Best Local Similarity 71.4
Matches 5; Conservative
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Best Local Similarity
Matches 5; Conserv
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                                                      SEQ ID NO:14:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; LENGTH: 9
5217955-15
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; SEQ ID NO:15:
                                                                                                                                                                                                                                                                                                                       RESULT 8
5217955-15
                                                                                            5217955-14
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                                                 RESULT 5
5217955-36
; Patent No. 5217955
; APPLICANT: aBOGDEN, ARTHUR E.; MOREAU, JACQUES-PIERRE
; TILLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG
; OR BOMBESIN, GRP, LITORIN OR NEUROMEDIN
; NUMBER OF SEQUENCES: 4
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/520,225
; FLING DATE: 09-MAY-1990
; PRIOR APPLICATION NUMBER: 440,039
; FLILNG DATE: 21-NOV-1989
; FILING DATE: 11-SEP-1989
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TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG
OF BOMESIN, GRP. LITORIN OR NEUROMEDIN
NUMBER OF SEQUENCES: 42
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/520,225
FILING DATE: 09-MAY-1990
PRIOR APPLICATION NUMBER: 440,039
FILING DATE: 21-NOV-1989
FILING DATE: 11-NOV-1989
FILING DATE: 11-SEP-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT a BOGDEN, ARTHUR E.; MOREAU, JACQUES-PIERRE

APPLICANT a BOGDEN, ARTHUR E.; MOREAU, JACQUES-PIERRE

FITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG

FOR BOMBESIN, GRY. LITORIN OR NEUROMEDIN

NUMBER OF SEQUENCES: 42

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/520,225

FILING DATE: 09-MAY-1990

PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                      Score 23; DB 6; Length 8;
Pred. No. 1.5e+05;
2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       82.1%; Score 23; DB 6; Length 9; 71.4%; Pred. No. 1.5e+05; ive 0; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: 440,039
                                                                                                                                                                                                                                                                                                                                                                                                                                     82.1%;
71.4%;
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Best Local Similarity 71.4
Matches 5; Conservative
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Best Local Similarity
Matches 5; Conserv
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;Patent No. 5217955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 QWAVAHL 8
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5217955-13
;Patent No. 5217955
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2 QWAVAHL 8
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LENGTH: 9
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TOPOLOGY:
FEATURE:
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US-08-168-390-11
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; Sequence 2, Application US/08460269C
; Patent No. 6197548
; GENERAL INFORMATION:
; APPLICANT: CLARE, JEFFREY J.
; ROMANOS, MICHAEL A.
; TITLE OF INVENTION: EXPRESSION OF HETEROLOGOUS PROTEIN IN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 3; Length 540;
3.8e+02;
ches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
ADDRESSE: Millen, White, Zelano & Branigan, P.C.
STREET: 2200 Clarendon Blvd., Suite 1400
CITY: ARLINGTON
                                                    GENERAL INFORMATION:

APPLICANT: Bertin, John
TITLE OF INVENTION: GENER ENCODING CASPASE RECRUITMENT
TITLE OF INVENTION: DOMAIN POLYPEPTIDES
NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson P.C.
STREET: 225 Franklin Street
CITY: Boston
STATE: MA
COUNTRY: USA
                                                                                                                                                                                                                                                                                                            MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
COMPUTER: IBM Compatible
COMPUTER: STREEN: Windows 95
SOFTWARE: FASTSEQ for Windows Version 2.0b
CURRENY APPLICATION DATA:
FILLING DATE: 06-FEB-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 23; DB 3
Pred. No. 3.8e+
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    07334/068001
                      Sequence 1, Application US/09019942
Patent No. 6033855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATTORNEY/AGENT INFORMATION:
NAME: Melklejoh, Ph.D., Antt
REGISTRATION NUMBER: 35,283
REFERENCE/DOCKET NUMBER: 0733
TELECOMMUNICATION INFORMATION:
TELEPHON: 617/542-6906
TELEFAX: 617/542-8906
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INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
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71.48;
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amino acid
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st Local Similarity 71.4
tches 5; Conservative
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PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       , MOLECULE TYPE: protein US-09-019-942-1
                                                                                                                                                                                                                                                                    ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY: USA
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US-08-460-269C-2
US-09-019-942-1
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GENERAL INFORMATION:
APPLICANT: Knight, Martha
APPLICANT: Takahashi, Kazayuki
APPLICANT: Takahasekhar, Bhaskar
TITLE OF INVENTION: Bombesin/Gastrin Releasing Peptide Antagonists
NUMBER OF SEQUENCES: 16
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 910;
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/460,269C
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ZIP: 20005
COMPUTER: PLORDY disk
MEDIUM TYPE: Floppy disk
COMFUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/168,390
FILING DATE: Herewith
FILING DATE: HEREWITH 530
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Pred. No. 6.5e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  E: Sterne, Kessler, Goldstein & Fox 1100 New York Avenue, Suite 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Mismatches
                                                                                                                                                                              NAME: Lebovitz, Richard M.
REGISTRATION NUMBER: 37,067
REFERENCE/DOCKET NUMBER: POPOV-2
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 243-6133
TELEFA: (703) 243-610
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0871,0040001
                                                                                                                                                                                                                                                                                                                                                                                                ; TOPOLOGY: linear; MOLECULE TYPE: protein; SEQUENCE DESCRIPTION: SEQ ID NO: 2: US-08-460-269C-2
                                                                                                                                    FILING DATE: 02-Jun-1995
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 11, Application US/08168390 Patent No. 5620955
                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 910 amino acids TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME: Goldstein, Jorge A.
REGISTRATION NUMBER: 29,021
REFERENCE/POCKET NUMBER: 0871
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 371-2600
TELEFAX: (202) 371-2540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              11:
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71.48;
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Best Local Similarity 71...
5; Conservative
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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ATTORNEY/AGENT INFORMATION:
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; OTHER INFORMATION:
US-08-337-127-9
                                                                                                                                                                                                                                                                                                           OTHER INFORMATION: OTHER INFORMATION:
                                                                                                                                                                                                                            TYPE: amino acid STRANDEDNESS:
                                                                                                                                                                                                                                                                    TOPOLOGY: linear
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Best Local Similarity
Matches 5; Conserv
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5217955-32
                                                                                                                                                                                                           LENGTH:
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5217955-34
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                                      OTHER INFORMATION: /note= "The amino-terminal residue OTHER INFORMATION: comprises one of several chemical end caps."
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0
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Pred. No. 1.5e+05;
0; Mismatches 2; Indels
                                                                                                                     LOCATION: 8
OTHER INFORMATION: /note= "The carboxy-terminal OTHER INFORMATION: residue comprises an ethyl ester."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY: U.S.A.
ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: IBM PS/2 Model 50Z or 55SX
OPERATING SYSTEM: IBM P.C. DOS (Version 3.30)
SOFTWARE: WordPerfect (Version 5.0)
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                               US-08-333-127-9
Sequence 9, Application US/08337127
Sequence 9, Application US/08337127
GENERAL INFORMATION:
APPLICANT: COY, David H.
APPLICANT: Moreau, Jacques-Pierre
APPLICANT: Mim, Sun H.
TITLE OF INVENTION: OCTAPEPTIDE BOMBESIN
TITLE OF INVENTION: ANALOGS
NUMBER OF SEQUENCES:
ADDRESSEE: Fish & Richardson
STREET: 225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US/08/337,127 FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION: 530
PRIOR APPLICATION: 530
RELICATION DATA:
APPLICATION NUMBER: 07/779,039
FILING DATE: 10/18/91
APPLICATION NUMBER: 07/502,438
FILING DATE: 03/30/90
APPLICATION NUMBER: 07/37,169
FILING DATE: 08/21/89
APPLICATION NUMBER: 07/37,169
FILING DATE: 07/07/89
APPLICATION NUMBER: 07/28,328
FILING DATE: 03/02/89
APPLICATION NUMBER: 07/28,328
FILING DATE: 10/14/88
FILING DATE: 10/14/88
FILING DATE: 09/23/88
FILING DATE: 09/23/88
FILING DATE: 09/23/88
APPLICATION NUMBER: 07/257,998
FILING DATE: 09/23/88
APPLICATION NUMBER: 07/257,998
FILING DATE: 09/23/88
APPLICATION NUMBER: 07/257,998
FILING DATE: 09/23/88
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06/16/88
07/204,171
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FILING DATE: 03/25/88
APPLICATION NUMBER: 07/100,571
FILING DATE: 09/24/87
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Best Local Similarity 71.4%;
Matches 5; Conservative (
                                                                               FEATURE:
NAME/KEY: Modified-site
Modified-site
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APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CITY: Boston
STATE: Massack
COUNTRY: U.S.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE:
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2 QWAVGHL 8
NAME/KEY:
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### REPERMINENCE NOTES THE CONTROL NUMBER: 00.377/00300D
| PRECEDENCE NUMBER: 00.377/0
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0; Gaps
                                                                                                                             Query Match

Past Local Similarity 71.4%; Pred. No. 1.5e+05;
Matches 5; Conservative 0; Mismatches 2; Indels
; APPLICATION NUMBER: 408,125
; SEQ ID NO:34:
; SED IS-SEP-1989
5217955-34
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2 QXAVXHL 8 | || || || 2 QWAVGHL 8 οy

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Search completed: October 25, 2001, 11:23:56

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GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
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OM protein - protein search, using sw model

October 25, 2001, 11:28:28 ; Search time 40.36 Seconds (without alignments) 6.790 Million cell updates/sec Run on:

US-09-630-333-5 28 1 XQXAVXHL 8 Title: Perfect score: Sequence: BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

93435 seqs, 34255486 residues Searched:

93435 tal number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

SwissProt_39:* Database : Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

092838 home sai 054693 mus muse . 054693 mus muse . P12851 actinoplate . P10654 actinoplate . P10654 actinoplate . P10654 actinoplate . P1070 a. 1 ht. 1 co. 025926 helicobacte . P8761 ebola virus . O11457 ebola virus . P87666 ebola virus . P87666 ebola virus . P87190 saccharomyc	SLN	510 AA.	Created) Last sequence update) Last annotation update) MUKB HOMOLOG.	ision; Pasteurellaceae;		, Clayton R.A., Kirkness E.F., Dougherty B.A., Merrick J M., ields C.A., Gocayne J.D.	Scott J.D., Shirley R., Liu LI., Glodek A., Kelley J.M., Weidman J.F., Phillips C.A., Sprigs T., Hedblom E., Cotton M.D., Utterback T.R., Hanna M.C., Nguyen D.T., Saudek D.M., Erandon R Y., Frier L.D., Fritchman J.T., Enchann J.T., Geochagen N S M.	Fraser C.M., Smith H.O., sembly of Haemophilus	influenzae Rd."; Science 269:496-512(1995). -i- FUNCTION: ESSENTIAL FOR CHROMOSOME PARTITIONING (BY SIMILAKLLY).	is produced through a collaboration	Official of the Embroad Scaling There are no restrictions on it ong as its content is in no will over the Usage by and for commercial	(See http://www.isb-sib.ch/announce.		(POTENTIAL). JL (POTENTIAL).	JIL (POTENTIAL). JIL (POTENTIAL).	COILED COIL (POTENTIAL). COILED COIL (POTENTIAL). GLOBULAR (POTENTIAL). GLOTIEN COIT (POMENTIAL).	ULAR (POTENTIAL). (POTENTIAL). (POTENTIAL). 173EC419883184F CRC64;	
UMAN OUSE ACTMI AMPSP ARTS7 HELPY HELPY HELPO BOGC BOG4 BOC2 BOC3	ALIGNMENT	7	ce up tion G.	ubdiv		te O. F., W., F	, Glo 99s T n D.T	K.V.,	OSOME		tute. as 1	ment ib.ch		ULAR ED CC		ED CC	ULAR (POTE (POTE 173EE	,
EDA_HUMAN EDA_MOUSE XYLA_ACTMI XYLA_ARTS7 CLPX_HELPY CLPX_HELPY CLPX_HELPY VQP_EBOCC VQP_EBOCC VGP_EBOCS VGP_EBOCS VGP_EBOCS VGP_EBOCS VGP_EBOCS	ΑΓ	PRT;	ed) eeguen nnoota IOMOLO	imma s	2800;	, Whi omb J	LI. Spri Nguye	mall ing a	CHROM	yrigh	Insti Insti Itions is no	agree		GLOB	300	100 2010 2010	GLOB ATP ATP MW;	
неннаннанна			sate st s st a	g	3190 -754	1.D.	n e	, s			ics itt	ıse ıse(85	
3991 3991 3994 3994 6776 6776 759		STANDARD;	32, Cre 32, Las 36, Las	Macmoballus influenzae. Bacteria; Proteobacteria; gamma subdivision; Haemophilus.	/ ATCC : PubMed=	Adams Nilt C.J.	y R., I lips C. nna M.C	ld L.A.	2(1995) NTIAL B	try is	formati formati t inst	a licer o licer	3022.1;	345 469	706	1065 1154 1247	510 82 82 454	•
		STA	21. 21. 21.	Tue	4.A.)., Bu	rrle phil Ha	ona	1; 5-51 SSSE		loin cofi	es 11 t	VAC2	oile S			-	
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		IAEIN	7-1995 7-1995 7-1998 0IVISI	Haemophilus Bacteria; Pr. Haemophilus. NCBI_TaxID=7	LIJ SEQUENCE FROM N STRAIN-RD / KW2 MEDLINE-9535063	rage A	J.D., in J.F.	C.L., J.C.,	enzae l se 269 INCTION	WISS-I	iropear y nor	les rec	EMBL, U32817; AAC23022 TIGR, HI1374; -	Inding			CE	
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SPECIES=E.col; STRAIN=K12 / MG1655;
MEDLINE=97426617; bubMed=9278503;
MEDLINE=97426617; bubMed=9278503;
Blattner F.R., Plunkett G. III, Bloch C.A., Perna N.T., Burland V.,
Riley M., Collado-Vides J., Glasner J.D., Rode C.K., Mayhew G.F.,
Gregor J., Davis N.W., Kirkpatrick H.A., Goeden M.A., Rose D.J.,
Mau B., Shao Y.; Rose D.J.,
"The complete genome sequence of Escherichia coli K-12.";
Science 277:1453-1474(1997).
                                                                                                                                                                                                                                                                                                                      "The ptsH, ptsI, and crr genes of the Escherichia coli
phosphoenolpyruvate-dependent phosphotransferase system: a complex
operon with several modes of transcription.";
J. Bacteriol. 170:3827-3837(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Saffen D.W., Presper K.A., Doering T.L., Roseman S.; "Sugar transport by the bacterial phosphotransferase system. Molecular cloning and structural analysis of the Escherichia coli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Byrne C.R., Monroe R.S., Ward K.A., Kredich N.M.; "DNA sequences of the cysK regions of Salmonella typhimurium and Escherichia coli and linkage of the cysK regions to ptsH."; J. Bacteriol. 170:3150-3157(1988).
                                                                                                                                                                                                                       Escherichia coli, and Salmonella typhimurium.
Bacteria; Proteobacteria; gamma subdivision; Enterobacteriaceae;
                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
SPECIES=E.coli; STRAIN=K12;
SPECIES=E.coli; STRAIN=K12;
de Reuse H., Roy A., Danchin A.;
"Analysis of the ptsH-ptsI-crr region in Escherichia coli K-12:
nucleotide sequence of the ptsH gene.";
Gene 35:199-207(1985).
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SPECIES-E.Coll; STRAIN-K12;
MEDLINE-973-49980; PubMed=9205837;
Yammanoto Y., Aiba H., Baba T., Hayashi K., Inada T., Isono K.,
                   Length 1510;
                                                                                                                                          PTHP_ECOLI STANDARD; PRT; 85 AA.
P07006; P05525;
01-APR-1988 (Rel. 07, Created)
01-APR-1988 (Rel. 07, Last sequence update)
01-APR-1000 (Rel. 40, Last annotation update)
PHOSPHOCARRIER PROTEIN HPR (HISTIDINE-CONTAINING PROTEIN)
          Score 24; DB 1; Length lower Pred. No. 1.6+02; 2; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ptsH, ptsI, and crr genes.";
J. Biol. Chem. 262:16241-16253(1987).
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MEDLINE=88058992; PubMed=2960675;
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71.4%;
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SEQUENCE OOII; STRAIN-KI2;
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MEDLINE=94043003; PubMed=8226757;
Jia Z., Quail J.W., Waygood E.B., Delbaere L.T.J.;
"The Z.O.A resolution structure of Escherichia coli
histidine-containing phosphocarrier protein HPr. A redetermination.";
J Biol. Chem. 268:22490-22501(1993).
Itch T., Kimura S., Kitagawa M., Makino K., Miki T., Mitsuhash, ..., Mizobuchi K., Mori H., Nakade S., Nakamura Y., Nashimoto H., Oshima T., Oyama S., Saito N., Sampei G., Satoh Y., Sivasundarum. S., Tagami H., Takahashi H., Takeda J., Takemoto K., Uchara K., Wad, C., Yamagata S., Horluchi T.; "Construction of a contiguous 874-kb sequence of the Escherichia coli-KI2 genome corresponding to 50.0-68.8 min on the linkage map and analysis of its sequence features.";
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"Two-dimensional 1H NMR studies of histidine-containing protein from Escherichia coli. 3. Secondary and tertiary structure as determined by NMR.";
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"Mutation of serine-46 to aspartate in the histidine-containing protein of Scherichia coil mimics the inactivation by phosphorylation of serine-46 in HPrs from gram-positive bacteria."; Biochemistry 35:11260-11267(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      structure and active site of a general phosphocarrier protein (HPr) from Salmonella typhimurium.";
J. Biol. Chem. 257:14499-14509(1982).
                                                                                                                                                                                                                                                                                                                                                                                                             SPECIES-S.typhimurium; STRAIN-LT2;
MEDLINE-89237892; PubMed-2497295;
Schnierow B.J., Yamada M., Saler M.H. Jr.;
"Partial nucleotide sequence of the pts operon in Salmonella typhimurium: comparative analyses in five bacterial genera.";
Mol. Microbiol. 3:113-118(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SPECIES=S.typhimurium;
MEDIXIDE=8305697; PubMed=65754732;
Weigel N., Powers D.A., Roseman S.;
"Sugar transport by the bacterial phosphotransferase system.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SPECIES-S.typhimurium;
MEDLINE-85080006; PubMed-6392295;
Powers D.A., Roseman S.,
The primary structure of Salmonella typhimurium HPr, a phosphocarrier protein of the phosphoenolpyruvate:glycose phosphotransferase system. A correction.";
J. Biol. Chem. 259:15212-15214(1984).
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Frutiger S., Hughes G.J., Pasquali C.,
Submitted (FEB-1996) to the SWISS-PROT
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SPECIES-E.coli; STRAIN=K12 / EMG2
MEDLINE=97443975; PubMed=9298646;
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"Solution structure of the 40,000 Mr phosphoryl transfer complex
"Solution structure of the 40,000 Mr phosphoryl transfer complex
between the N-terminal domain of enzyme I and HPr.";
Nat. Struct. Biol. 6:166-173(1999).

-1- FUNCTION: THIS IS A COMPONENT OF THE PHOSPHOENOLPYRUVATE-DEPENDENT
SUGAR PHOSPHOTANSFERASE SYSTEM (FTS), A MAONG ASBOHYDRANTE ACTIVE
-TRANSPORT SYSTEM. THE PHOSPHORYL GROUP FROM PHOSPHOENOLPYRUYATE
(PEP) IS TRANSFERRED TO THE PHOSPHORYL CARRIER PROTEIN HPR BY
ENZYME I. PHOSPHO-HPR THEN TRANSFERS IT TO THE PERMEASE (ENZYMES
II/III). HPR IS COMMON TO ALL PTS.
-!- SUBCELLULAR LOCATION: CYTOPLASMIC.
-!- SINELARITY: TO ALL OTHER HPR OR HPR DOMAINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               van Nuland N.A.J., Wiersma J.A., van der Spoel D., de Groot B.L., Scheek R.M., Robillard G.T.; "Phosphorylation-induced torsion-angle strain in the active center of HPr., detected by NAR and restrained molecular dynamics refinement."; Protein Sci. 5:442-446(1996).
                                                                                                                                                                                                                                                           Robillard G.T.;
"Determination of the three-dimensional solution structure of the histidine-containing phosphocarrier protein HPr from Escherichia coli using multidimensional NMR spectroscopy.";
Eur. J. Biochem. 210:881-891(1992).
                                                                                                                                                                                                                                                                                                                                                                                                        STRÜCTURE BY NMR.

MEDLINE94210480; PubMed-8158637;
van Nuland N.A.J., Hangyi I.W., van Schaik R.C., Berendsen H.J.,
van Gunsteren W.F., Scheek R.M., Robillard G.T.;
"The high-resolution structure of the histidine-containing
phosphocarrier protein HPT from Escherichia coll determined by
restrained molecular dynamics from nuclear magnetic resonance nuclear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE-95156481; PubMed-7853396;
van Nuland N.A.J., Boelens R., Scheek R.M., Robillard G.T.;
"High-resolution structure of the phosphorylated form of the histidine-containing phosphocarrier protein HPr from Escherichia coli determined by restrained molecular dynamics from NMR-NOE data.";
J. Mol. Biol. 246:180-193(1995).
                                     Hammen P.K., Waygood E.B., Klevit R.E.;
"Reexamination of the secondary and tertiary structure of histidine-
containing protein from Escherichia coli by homonuclear and
heteronuclear NWR spectrosscopy.",
                                                                                                                                                                                                                                       van Nuland N.A.J., Groetzinger J., Dijkstra K., Scheek R.M.,
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MEDLINE-99140298; PubMed=10048929;
                                                                                                                      heteronuclear NMR spectroscopy.";
Biochemistry 30:11842-11850(1991)
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MEDLINE=97022120; Pubmed=8868480;
                                                                                                                                                                                                                MEDLINE-93130914; PubMed=1483471;
                      MEDLINE-92089095; PubMed=1751501;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Overhauser effect data.";
J. Mol. Biol. 237:544-559(1994).
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71.48;
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Matches 5; Conservative
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between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commencial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FUNCTION: THIS IS A COMPONENT OF THE PHOSPHOENOLPYRUVATE DELINDEN SUGAR PHOSPHOTRANEERASE SYSTEM (PTS), A MAJOR CARBOHYDRATE ACTIVE TRANSPORT SYSTEM. THE PHOSPHORYL GROUP FROM PHOSPHOENOLPYRUVATE (PEP) IS TRANSFERRED TO THE PHOSPHORYL CARRIER PROTEIN HUR BINAXEE I PHOSPHOY-HDR THEN TRANSFERS IT TO THE PERMEASE (ENZYMES II/III). HPR IS COMMON TO ALL PTS (BY SIMILARITY). SIBCELLULAR LOCATION: CYTOPLASMIC (BY SIMILARITY). SIMILARITY: TO ALL OTHER HPR OPMAINS.
                                                                                                                                                                                                                                                       STRAIN-ED / KW20 / ATCC 51907;

MEDLINE=95350630; PubMed=7542800;
Fleischmann R.D., Adams M.D., White O., Clayton R.A., Kirkness E.F., Kerlavage A.R., Bult C.J., Tomb J.-F., Dougherty B.A., Merrick J.M., McKenney K., Sutton G., Fitzhugh W., Fields C.A., Gocayne J.D., Scott J.D., Shirley R., Liu L.-I., Glodek A., Kelley J.M., Weidman J.E., Phillips C.A., Spriggs T., Hedblom E., Cotton M. Utterback T.R., Hanna M.C., Nguyen D.T., Saudek D.M., Brandon K.C., Fine L.D., Fritchman J.L., Fuhrmann J.L., Geoghagen N.S.M., Gnehm C.L., McDonald L.A., Small K.V., Fraser C.M., Smith H.U.,
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                                                                                                                                                              Bacteria; Proteobacteria; gamma subdivision; Pasteurellaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Whole-genome random sequencing and assembly of Haemophilus
                                                             01-NOV-1995 (Rel. 32, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
PHOSPHOCARRIER PROTEIN HPR (HISTIDINE-CONTAINING PROTEIN).
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71.4%;
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Best Local Similarity 71.4
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118 QRAVGHL 124
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P06013;
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CARBOHYD
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CARBOHYD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE-90245592; PubMed=2186369;
Titgemeyer F., Eisermann R., Hengstenberg W., Lengeler J.W.;
Titgemeyer F., Eisermann R., Hengstenberg W., Lengeler J.W.;
Titgemeyer F. 1811898 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18180 18
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                                                                                                                                                                                                                                                                                                                                         Bacteria; Proteobacteria; gamma subdivision; Enterobacteriaceae; Klebsiella.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;
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                                                                                                            01-AUG-1990 (Rel. 15, Created)
01-AUG-1990 (Rel. 15, Last sequence update)
01-AUG-1991 (Rel. 20, Last annotation update)
PHOSPHOCARRIER PROTEIN HPR (HISTIDINE-CONTAINING PROTEIN)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           82.1%; Score 23; DB 1; Length 85; 71.4%; Pred. No. 14;
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85 AA; 9119 MW; 10C8879C0A95ABF7 CRC64;
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30-MAY-2000 (Rel. 39, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
NUTATIVE ENDONUCLEASE VIII (EC 3.2.-.-)
NEI OR SC7C7.15C.
                                        85 AA
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PROSITE; PS00589; PTS_HPR_SER; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; X51452; CAA35818.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRAIN=1033-5P14 / KAY2026;
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Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Streptomyces coelicolor.
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                                            STANDARD;
                                                                                                                                                                                                                                                                                                             Klebsiella pneumoniae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HSSP; P07006; 1PFH.
InterPro; 1PR001020;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PIR; S12749; S12749.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
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71 QKAVEHL 77
                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=573;
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086820;
                                        PTHP_KLEPN
P16481;
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SEQUENCE
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END8_STRCO
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                                                                                                                                                                                                                                         This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstafion - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
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Sequence homologies near the C-termini of the variable surlace.

Sequence homologies near the C-termini of the variable surlace.

Glycoproteins of Trypanosoma brucei.";

Nature 294:53-57(1981).

-1- FUNCTION: VSG FORMS A COAT ON THE SURFACE OF THE PARASITE. THE TYPANOSOME BYADES THE IMMUNE RESPONSE OF THE HOST BY EXPRESSING A SERIES OF ANTIGENICALLY DISTINCT VSGS FROM AN ESTIMATED 10:00
Harris D., Taylor K., Parkhill J., Barrell B.G., Rajandraam M.A.; Submitted (JuL-1998) to the EMBL/Gebank/DBB databases.
-!- FUNCTION: DNA N-GLXCOSYLARE WITH AN AP LYASE ACTIVITY. REQUIRED FOR THE REPAIR OF OXIDATIVE DNA DAMAGE (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Euglenozoa; Kinetoplastida; Trypanosomatidae; Trypanosom
NCBL_TaxID=5702;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SUBCELLULAR LOCATION: ATTACHED TO THE MEMBRANE BY A GPI-ANCHOR. A SOLUBLE FORM IS RELASED FROM RUPTURED CELLS BY THE ACTION OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   N-LINKED (GLCNAC. ..) (POTENTIAL).
N-LINKED (GLCNAC. ..) (POTENTIAL).
N-LINKED (GLCNAC. ..) (POTENTIAL)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 1; Length 276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2; Indels
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13-AUG-1987 (Rel. 05, Last sequence update)
01-MAY-1992 (Rel. 22, Last annotation update)
VARIANT SURFACE GLYCOPROTEIN ILTAT 1.2 (VSG) (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DNA repair; Hydrolase; Glycosidase; Endonuclease; Zinc.
ZN_FING 231 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          276 AA; 30408 MW; 01106CD65EF94DE9 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                320 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Mismatches
                                                                                                                                                                  -! - SIMILARITY: BELONGS TO THE FPG FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               82.1%; Score 23; DB 71.4%; Pred. No. 49;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pfam; PF01149; Fapy_DNA_glyco; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pfam; PF00913; Trypan_glycop; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; AL031031; CAA19861.1; -.
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Eukaryota; Euglenozoa; Ki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Glycoprotein; Antigen;
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Pred. No.

71.48;

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Best Local Similarity
Matches 5; Conserv
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                                                                                                                                               HEM1_CYAPA
P48077;
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                                                                                                                                                                                                                                                                  Cyanelle.
                                                                                                                   RESULT 8
HEM1_CYAPA
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0
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-1 FUNCTION: THIS ENZYME CATALYZES THE LIGHT-DEPENDENT MONOMERIZATION (300-600 NM) OF CYCLOBUTY PYRIMIDINE DIMERS (IN CIS-SYN CONFIGURATION), WHICH ARE FORMED BETWEEN ADJACENT BASES ON THE SAME DNA STRAND, UPON EXPOSURE TO ULTRAVIOLET RADIATION.

-1 CATALYTIC ACTIVITY: CYCLOBUTADIPYRIMIDINE (IN DNA) = 2 PYRIMIDINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESIDUES (IN DNA). COFACTOR: CONTAINS ONE REDUCED FLAVIN (FADH2) CHROMOPHORE THAT IS
                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                    MEDIINE-97474278; PubMed-9335302;
Kato R., Hasegawa K., Hidaka Y., Kuramitsu S., Hoshino T.;
"Characterization of a thermostable DNA photolyase from an extremely
thermophilic bacterium, thermus thermophilus HB27.";
J. Bacteriol. 179:6499-6503(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hoshino T., Fujii R., Nakahara T.; "Molecular cloning and sequence analysis of the crtB gene of Thermus thermophilus HB27, an extreme thermophile producing carotenoid
                                                                                                                                                                                                                                          01-0CT-1994 (Rel. 30, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
DEOXYRIBODIPYRIMIDINE PHOTOLYASE (EC 4.1.99.3) (DNA PHOTOLYASE)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SIMILARITY: BELONGS TO THE DNA PHOTOLYASE CLASS-1 FAMILY.
                                                                                                                                                                                                                                                                                                                                  Thermus aquaticus (subsp. thermophilus).
Bacteria; Thermus/Deinococcus group; Thermus group; Thermus.
                                                         Score 23; DB 1; Length 320;
Pred. No. 57;
                                                                                     Indels
               D6F18DA8208063C8 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRINTS; PR00147; DNAPHOTLYASE.
PROSITE; PS00394; DNA_PHOTOLYASES_1_1; 1.
PROSITE; PS00691; DNA_PHOTOLYASES_1_2; FALSE_NEG.
PROSITE; PS00691; DNA_PHOTOLYASES_1_2; FALSE_NEG.
LYASE; Chromophore; Flavoprotein; FAD; DNA_repair; DNA_SEQUENCE 420 AA; 47823 MW; BEA2170963672897 CRC64;
                                                                                                                                                                                                                    420 AA
                                                                                    1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A., AND SEQUENCE OF 1-10.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BOUND BY NON-COVALENT INTERACTIONS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE-94028944; PubMed-8215386;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; AB001637; BAA22943.1; -.
320
33871 MW;
                                                       82.1%;
57.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE OF 1-194 FROM N.A.
                                                                                                                                                                                                                                                                                                       (PHOTOREACTIVATING ENZYME)
                                                                     Best Local Similarity 57.1
Matches 4; Conservative
                                                                                                                                                                                                                  STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR000474;
InterPro; IPR002081;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SUBUNIT: MONOMER
             320 AA;
                                                                                                                                          157 QTAIMHL 163
                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=274;
                                                                                                               2 QXAVXHL 8
                                                                                                                                                                                                                 PHR_THETH P37250;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   pigments."
NON_TER
SEQUENCE
                                                       Query Match
                                                                                                                                                                                      RESULT 7
PHR_THETH
FJ
                                                                                                                                                                                                                                                                                                                         å
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DB 1; Length 420;

Score 23;

82.18;

Query Match

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ċ
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SEMIALDEHYDE + NADP(+) + TRNA(GLU) + NADPH = GLUTAMATE |
SEMIALDEHYDE + NADP(+) + TRNA(GLU) + NADPH = GLUTAMATE |
SEMIALDEHYDE + NADP(+) + TRNA(GLU) + NADPH = GLUTAMATE |
INVOLVED IN CHLOROPHYLL BIOSYNTHESIS BY THE C5 PATHWAY INVOLVED IN CHLOROPHYLL BIOSYNTHESIS |
INVOLVED IN CHLOROPHYLL BIOSYNTHE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=90092562; PubMed=2403527;
Bryant D.A., Stirewalt V.L.;
"The cyanelle genome of Cyanophora paradoxa encodes ribosomul
proteins not encoded by the chloroplasts genomes of higher plant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Porphyrin biosynthesis; Chlorophyll biosynthesis; OxidoreductaumandPyl Cyanelle.
SEQUENCE 432 AA; 48542 MW; F14378FC72FFNAR PROFA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRAIN=LB555 / PRINGSHEIM;
Stirewalt V.L., Michalowski C.B., Luffelhardt W., Bohnert H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 23; DB 1; Length 432; Pred. No. 78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Glaucocystophyceae; Cyanophoraceae; Cyanophora.
NCBI_TaxID=2762;
                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Submitted (JUL-1995) to the EMBL/GenBank/DDBJ databases.
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                                             5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-FEB-1996 (Rel. 33, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
GLUTAMYL-TRNA REDUCTASE (EC 1.2.1.-) (GLUTR).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A.
ed. No. 76;
Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
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P95525;
01-NOV-1997 (Rel. 35, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE OF 407-432 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; U30821; AAA81194.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             82.18;
71.48;
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PROSITE; PS00747; GLUTK; 1
                                             5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Cyanophora paradoxa.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IPR000343;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRAIN-LB555 UTEX;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 94 QDAVMHL 100
                                                                                                                                                                                                                                 318 QFAVKHL 324
                                                                                                                                  2 QXAVXHL 8
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ID HEMI_F
AC P95525
DT 01-NOV
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AY.
Arch. Biochem. Biophys. 330:290-300(1996).
-!- SIMILARITY: BELONGS TO THE IFIT FAMILY.
-!- SIMILARITY: CONTAINS TPR REPEATS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 23;
Pred. No. 8
                                                                                                                                                                                                                                                                                                                                                                                                                                           TPR 8.
TPR 9.
TPR 10.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=98332770; PubMed=9665876;
                                                                                                                                                                                                                EMBL; S77713; AAB33830.1; -.
EMBL; S77710; AAB33830.1; JOINED.
EMBL; U43085; AAC5265.1; -.
MGD; MGI:99449; Ifitz.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ;
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30-MAY-2000 (Rel. 39, Last sequ
                                                                                                                                                                                                                                                                                        TPR repeat; Interferon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          82.1%;
ilarity 71.4%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          55020
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Treponema pallidum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    315 QLAVNHL 321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=160;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRAIN-NICHOLS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 QXAVXHL 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      THDF OR TP0550.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Venter J.C.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            THDF_TREPA
083561;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                          Repeat;
                                                                                                                                                                                                                                                                                                                                           REPEAT
REPEAT
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                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Biolinformatics and the EMBL Outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@lsb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TET2_MOUSE STANDARD; PRT; 472 AA.

064112; 062385;
30-MAY-2000 (Rel. 39, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
INTERFERON-INDUCED PROTEIN WITH TETATRICOPEPTIDE REPEATS 2 (IFIT-2)
ATTENDATED RESPONSE GENE 39 PROTEIN) (GARG-39).
                                                                                                                                                                                                                  Submitted (JAN-1997) to the EMBL/GenBank/DDBJ databases.
-!- CATALYTIC ACTIVITY: GLUTAMYL-TRNK(GLU) + NADPH = GLUTAMATE-1-
SEMIALDEHYDE + NADP(+) + TRNA(GLU).
-!- PATHMAX: FIRST STEP IN PORPHYRIN BIOSYNTHESIS BY THE C5 PATHWAY.
-!- SIMILARITY: BELONGS TO THE GLUTAMYL-TRNA REDUCTASE FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Structure, chromosome localization, and regulation of expression of the interferon-regulated mouse Ifi54/Ifi56 gene family."; Genomics 24:137-148(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE-96239145; PubMed-8660659;
Smith J.B., Herschman H.R.;
"The glucocorticoid attenuated response genes GARG-16, GARG-39, and
GARG-49/IRG2 encode inducible proteins containing multiple
tetratricopeptide repeat domains.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
MEDLINE=95203869; PubMed=7896268;
Bluyssen H.A., Vlietstra R.J., Faber P.W., Smit E.M., Hagemeljer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;
                                                                                           Bacteria; Proteobacteria; gamma subdivision; Pasteurellaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             82.1%; Score 23; DB 1; Length 434; 71.4%; Pred. No. 78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         D4FF92E52CFFB2B3 CRC64;
                    01-NOV-1997 (Rel. 35, Last annotation update) GLUTAMYL-TRNA REDUCTASE (EC 1.2.1.-) (GLUTR).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PROSITE; PS00747; GLUTR; 1.
PORDHYrin biosynthesis; Oxidoreductase; NADP.
SEOUENCE 434 AA; 48460 WW; D4FF92E52CFFB2
 01-NOV-1997 (Rel. 35, Last sequence update) 01-NOV-1997 (Rel. 35, Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; Y10430; CAA71452.1; -. InterPro; IPR000343; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IFIT2 OR IFI54 OR GARG39.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best_Local Similarity 71.4 Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PF00745; GlutR; 1.
                                                                          Pasteurella multocida
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                 SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       99 QQAVLHL 105
                                                                                                                                                                                                   Castrillon R.T.;
                                                                                                           Pasteurella.
NCBI_TaxID=747;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 QXAVXHL 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Trapman J.;
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Science 281:375-388(1998).
-!- FUNCTION: INVOLVED IN THIOPHENE OXIDATION (BY SIMILARITY).
-!- SIMILARITY: BELONGS TO THE ERA/THDF FAMILY OF GTP-BINDING PROTEINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Complete genome sequence of Treponema pallidum, the syphilis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 472;
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F -> N (IN REF. 2).

MISSING (IN REF. 2).

D -> A (IN REF. 2).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  30-MAY-2000 (Rel. 39, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
POSSIBLE THIOPHENE AND FURAN OXIDATION PROTEIN THDE
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86;
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189 QHAVRHL 195
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Q9UTM4;
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                                                                                                                                                                                                                                                                                   SEQUENCE
                                               EMBL;
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                 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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the serA and kdg loci cloned in a yeast artificial chromosome.";
Microbiology 142:2005-2016(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Fernandez S., Sorokin A., Alonso J.C.;
"Genetic recombination in Bacillus subtilis 168: effects of recU and recS mutations on DNA repair and homologous recombination.";
J. Bacteriol. 180:3405-3409(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-OCT-1996 (Rel. 34, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
ATP-DEPENDENT DNA HELICASE RECQ (EC 3.6.1.-) (RECOMBINATION PROTEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRAIN=168 / MARBURG;
MEDLINE-96349105; PubMed-8760912;
SOTOKin A.V., Azevedo V., Zumstein E., Galleron N., Ehrlich S.D.,
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-!- SIMILARITY: BELONGS TO THE RECQ SUBFAMILY OF HELICASES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 23; DB 1; Length 495;
Pred. No. 90;
0; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                           GTP (BY SIMILARITY).
GTP (BY SIMILARITY).
GTP (BY SIMILARITY).
; C40681269E7AFD2F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bacteria; Firmicutes; Bacillus/Clostridium group; Bacillus/Staphylococcus group; Bacillus.
NCBI_TaxID=1423;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=98317281; PubMed=9642195;
                                                                                                                                                                                            EMBL; AE001230; AAC65535.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-0CT-1996 (Rel. 34, Created)
                                                                                                                                                                                                                                                                                                                                                                                                               53781 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           82.1%;
71.4%;
                                                                                                                                                                                                                                                                               InterPro; IPR002917; -.
Pfam; PF01926; MMR_HSR1; 1.
GTP-binding.
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Best Local Similarity 71.4*
Best S; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STANDARD;
                                                                                                                                                                                                                                  InterPro; IPR002086; -. InterPro; IPR002106; -.
                                                                                                                                                                                                                                                                                                                                                237
281
340
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495 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bacillus subtilis.
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150 QQAVLHL 156
                                                                                                                                                                                                                                                                                                                                              230
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                                                                                                                                                                                                                     TP0550;
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P50729;
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NP_BIND
SEQUENCE
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-!- FUNCTION: MOLECULAR CHAPERONE, ASSIST THE FOLDING OF PROTEINS UPON ATP HYDROLYSIS. KNOWN TO PLAY A ROLE, IN VITRO, IN THE FOLDING OF ACTIN AND TUBULIN (BY SIMILARITY).

-!- SUBUNIT: HETERO-OLIGOMRRIC COMPLEX OF ABOUT 850 TO 900 KDA FHAT FORMS TWO STACKED RINGS, 12 TO 16 NM IN DIAMETER (POTENTIAL).

-!- SUBCELLULAR LOCATION: CYTOPLASMIC (POTENTIAL).

-!- SIBILARITY: BELONGS TO THE TCP-1 CHAPERONIN FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         aps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-0CT-2000 (Rel. 40, Created)
01-0CT-2000 (Rel. 40, Last sequence update)
01-0CT-2000 (Rel. 40, Last annotation update)
T-COMPLEX PROTEIN 1, EPSILON SUBUNIT (TCP-1-EFSILON) (CCT-EPSI 1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 23; DB 1; Length 496;
Pred. No. 90;
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PROSITE; PS00751; TCP1_2; 1.
PROSITE; PS00995; TCP1_3; 1.
Chaperone; ATP-binding; Multigene family.
SEQUENCE 546 AA; 59377 MW; DAB279CF67BFDC94 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                   DDC2FED715875F2D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Schizosaccharomyces pombe (Fission yeast).
Eukaryota; Fungi; Ascomycota; Schizosaccharomycetes;
Schizosaccharomycetales; Schizosaccharomycetaceae;
                                                                                                                                                                                                                                                                                                                  Hydrolase; Helicase; DNA-binding; ATP-binding. NP_BIND 38 45 ATP (POTENTIAL). SITE 136 139 DEAH BOX.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 or send an email to license@isb-sib.ch).
                                                                                      Subtilist; BG11407; rec0.
InterPro; IPR001410; -.
InterPro; IPR001650; -.
InterPro; IPR002464; -.
Pfam; PF00270; DEAD; 1.
Pfam; PF00271; helicase_C; 1.
PROSITE; PS00690; DEAH_ATP_HELICASE; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                   496 AA; 56508 MW;
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PRINTS; PR00298; CHAPERONIN60.
PRINTS; PR00304; TCOMPLEXTCP1.
L47648; AAC83947.1; -. Z99115; CAB14218.1; -. Z99116; CAB14234.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   82.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     001991; 001992; Q20309; 15-JUL-1998 (Rel. 36, Created)
15-JUL-1998 (Rel. 36, Last sequence update)
15-JUL-1998 (Rel. 36, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
ELONGATION FACTOR 2 KINASE (EC 2.7.1..) (EEF-2 KINASE) (CALCIUM/CALMODULIN-DEPENDENT EUKARYOTIC ELONGATION FACTOR-2 KINASE).
                                                    Gaps
                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea;
Rhabditidae; Peloderinae; Caenorhabditis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Transferase; Serine/threonine-protein kinase; ATP-binding; Calcium; Calmodulin-binding; Phosphorylation; Alternative splicing.
Calmodulin-binding; Phosphorylation; Alternative splicing.
POMAIN 690 693 POLY-GLU.
NP_BIND 279 284 ATP (POTENTIAL).
VARSPLIC 625 632 MISSING (IN ISOFORM EFK-1B).
SEQUENCE 768 AA; 87825 MW; 9333F3B13F0C14C5 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ryazanov A.G., Ward M.D., Mendola C.E., Pavur K.S., Dorovkov M.V., Wiedmann M., Erdjument-Bromage H., Tempst P., Parmer T.G., Prostko C.R., Germino F.J., Hait W.N.; Identification of a new class of procein kinases represented by eukaryotic elongation factor-2 kinase."; Proc. Natl. Acad. Sci. U.S.A. 94:4884-4889(1997).
                                                  ;;
0
                    Length 546;
                                                  2; Indels
                  Score 23; DB 1;
Pred. No. 1e+02;
                                                  Mismatches
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EMBL; U10414; AAA19075.1; ALT_SEQ.
                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=97289688; PubMed=9144159;
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                  82.1%;
71.4%;
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                                                  Conservative
                                                                                                                                                                                                 STANDARD;
                                                                                                                                                                                                                                                                                                                              Caenorhabditis elegans.
Query Match
Best Local Similarity
'Local 5; Conserv?
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A. STRAIN-BRISTOL N2;
                                                                                                                                                                                                                                                                                                                                                                                                                                STRAIN=BRISTOL N2;
                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                EFK-1 OR F42A10.4
                                                                                                   | || ||
144 QVAVKHL 150
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                                                                               2 QXAVXHL 8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS).
MEDLINE-96196517; Pubmdc-8609998;
Emsley P., Charles I.G., Fairweather N.F., Isaacs N.W.;
"Structure of Bordetella Partussis virulence factor P.69 pertaernen";
                                                                                                                                                                                                                                                                                                                                                               Charles I.G., Dougan G., Pickard D., Chatfield S., Smith M., Novotny P., Morrissey P., Fairweather N.F., "Molecular cloning and characterization of protective outer membrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Nature 381:90-92(1996).

-!- FUNCTION: AGGLUTINOGEN THAT BINDS TO EUKARYOTIC CELLS; A PROCESS MEDIATED BY THE R-G-D SEQUENCE. PERTACTIN MAY HAVE A ROLE IN BACTERIAL ADHESION, AND THUS PLAY A ROLE IN VIRULENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -1- SUBCELLULAR LOCATION: OUTER MEMBRANE.
-1- DISEASE: MAY CONTRIBUTE TO THE DISEASE STATE OF WHOOPING COUGH.
-1- MISCELLANEOUS: SYNTHESIZED ONLY IN THE PRESENCE OF LOW MG(2+)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LINES).
5 X 5 AA TANDEM REPEATS OF G-G-A-V-P.
1.
3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Li J.L., Fairweather N.F., Novotny P., Dougan G., Charles 1.G.; "Cloning, nucleotide sequence and heterologous expression of the protective outer-membrane protein P.68 pertactin from Bordetellu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 POTENTIAL.
CELL ATTACHMENT SITE (INVOLVED IN
ADHESION TO VARIOUS EURARYOTIC CELL
                                                                                                                                                                                                                                             Bacteria; Proteobacteria; beta subdivision; Alcaligenaceae;
                                                                                                                                                               01-FEB-1994 (Rel. 28, Last sequence update)
01-OCT-1996 (Rel. 34, Last annotation update)
PERTACTIN PRECURSOR (OUTER MEMBRANE PROTEIN P.69) (P.93).
                                                                                                                                                                                                                                                                                                                                                                                                              protein P.69 from Bordetella pertussis.";
Proc. Natl. Acad. Sci. U.S.A. 86:3554-3558(1989)
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                                                                                                               910 AA.
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                                                                                                                                                                                                                                                                                                                AND PARTIAL SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 bronchiseptica.";
J. Gen. Microbiol. 138:1697-1705(1992)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; J04560; AAA22980.1; ALT_SEQ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=92407514; PubMed=1527510;
                                                                                                                                                                                                                                                                                                                                               MEDLINE=89264462; PubMed=2542937;
                                                                                                                                               01-JAN-1990 (Rel. 13, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REVISIONS TO 264 AND 332
                                                                                                                  STANDARD;
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910
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                                                                                                                                                                                                                                Bordetella pertussis.
                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.,
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                              570 QSAIFHL 576
                                                                                                                                                                                                                                                                                NCBI_TaxID=520;
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2 QXAVXHL
                                                                                                                 PERT_BORPE
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Gaps

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82.1%; Score 23; DB 1; Length 768; 57.1%; Pred. No. 1.40+02; 1ive 1; Mismatches 2; Indels

Conservative

Local Similarity
les 4; Conserv

Query Match Best Local 3 Matches

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4 (APPROXIMATE).
285
281
FT REPEAT
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	0;
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Р- Р.	
286 290 5 (APPROXIMATE). 579 593 5 X 3 AA TANDEM REPEATS OF P-Q-P. 310 AA; 93452 MW; A169871E20A2E7DB CRC64;	Query Match 82.1%; Score 23; DB 1; Length 910; Best Local Similarity 71.4%; Pred. No. 1.7e+02; Matches 5; Conservative 0; Mismatches 2; Indels
290 593 93452 MW	82.1%; 71.4%; ative
286 579 910 AA;	milarity Conserv
REPEAT DOMAIN SEQUENCE	ery Match est Local Si tches 5;
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Search completed: October 25, 2001, 11:28:29 Job time: 477 sec

Qy 2 QXAVXHL 8 | 1 | 1 | 1 Db 247 QGAVVHL 253

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Perfect score:

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Q43353 hr.no sapien Q9ewh6 streptomyre Q84421 paramecium Q9eyy9 klobsiella 000901 | shmania

pseudomonas hemo sapien

pseudomonas seuomopn..sd O9win9 human immun O9vwi2 drosophila O9s6n0 bordetella

Q9ulm4 homo sapien

sulfolobus bordetella drosophila vibrio chol

084729 09vqf0 09vqf0 09v899 094483 094483 099x213 099x715 099x715 099x716 099x716 099x716 099x716 099x716 099x716 099x716 099x716 099x716

drosophila drosophila drosophila

streptomyce streptom; ce

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Wong C.Y.F., Heuzenroeder M.W., Quinn D.M., Flower R.L.P.; "Cloning and characterization of two immunophilin-like genes, "lpA and fkpA, on a single 3.9-kilobase fragment of Aeromonas hydrophila genomic DNA.";
                                                                                                                                                                                                                                                                                                                            Aeromonas hydrophila.
Bacteria; Proteobacteria; gamma subdivision; Aeromonadaceae;
                                                                                                                                                                                                                                                                                           01-JUL-1997 (TrEMBLrel. 04, Created)
01-JUL-1997 (TrEMBLrel. 04, Last sequence update)
01-NOV-1998 (TrEMBLrel. 08, Last annotation update)
SIMILARITY WITH KNOWN PROKARYOTIC OR EUKARYOTIC PROTEINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL, U56832; AAC45361.1; -. SEQUENCE 264 AA; 26815 MW; 8D2A5AB9CDDE9681 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Last sequence update)
Last annotation update)
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Pred. No. 61;
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                                                                                                                                                                                                                                   ALIGNMENTS
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099VE0
099X849
099X843
099X843
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099X15
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099X178
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Q9WIU9
Q9VWI2
Q9S6N0
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(TrEMBLrel. 10, I
(TrEMBLrel. 16, I
PROTEIN SKP2.
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71.4%;
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Best Local Similarity 71.4
Matches 5; Conservative
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SEQUENCE FROM N.A.
Aeromonas.
NCBI_TaxID=644;
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01-MAY-1999 (
01-MAR-2001 (
SCF COMPLEX E
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Q92023
Q92023;
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09wzz5 thermotoga
09ppB ureaplasma
09ppB ureaplasma
09ra67 thermomonos
055655 synechocyst
091296 streptomyce
09haf9 homo sapien
052936 calothnix v
09m318 arabidopsis
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Q9habl halobacteri
Q9vap3 drosophila
O08235 erwinia car
Q9m033 arabidopsis
Q9naw9 anopheles g
Q9k5g3 alcaligenes
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Q9z316 rhizobium s
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                                                       Search time 135.34 Seconds
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      4.5
Compugen Ltd.
                                                                                                                                                               l number of hits satisfying chosen parameters:
                                                                                                                                               425026 segs, 132305027 residues
                                                      October 25, 2001, 11:27:42;
      GenCore version
Copyright (c) 1993 - 2000
                                                                                                                                                                                                                                                                                                                                                                                                               SUMMARIES
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Maximum Match 100%
Listing first 45 summaries
                                        model
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Q9M033
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Gapop 10.0 , Gapext 0.5
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Q9K5G3
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                                                                                                                                                                                                                                                                                                                                            sp_unclassified:*
sp_vertebrate:*
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sp_human:*
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28
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Match Length
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Gaps

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Length 264;

Score

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Wernegreen J.J., Riley M.A.;
"Comparison of the evolutionary dynamics of symbiotic and housekeeping loci: a case for the genetic coherence of rhizobial lineages.";
loci: biol. Evol. 16:98-113(1999).
EMBL, AF065486, AAD11384.1; -.
InterPro; IPR002509; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATEAIN-MSB8 / DSM 3109;
MEDLINE-99287316; PubMed-10360571;
Melson K.E., Clayton R.A., Gill S.R., Gwinn M.L., Dodson R.J.,
Haft D.H., Hickey E.K., Peterson J.D., Nelson W.C., Ketchum K.A.,
McDonald L., Utterback T.R., Malek J.A., Linher K.D., Garrett M.M.,
Stewart A.M., Cotton M.D., Pratt M.S., Phillips C.A., Richardson D.,
Heidelberg J., Sutton G.G., Fleischmann R.D., Eisen J.A., White O.,
Salzberg S.L., Smith H.O., Venter J.C., Fraser C.M.;
"Evidence for lateral gene transfer between Archaea and Bacteriu from
01-MAY-2000 (TrEMBLrel. 13, Last annotation update)
NODULATION PROTEIN B (FRAGMENT).
Rhizobium sp. USDA 2061.
Bacteria, Froteobacteria; alpha subdivision; Rhizobiaceae group.
Rhizobiaceae; Rhizobium.
                                                                                                                                                                                                                                                                                                                                                                                   2; Length 179;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-NOV-1999 (TrEMBLrel. 12, Created)
01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-NAY-2000 (TrEMBLrel. 13, Last annotation update)
BACITRACIN RESISTANCE PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 24; DB 2;
Pred. No. 1e+02;
0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                 Score 24; DB
Pred. No. 75;
                                                                                                                                                                                                                                                                                                                                                                                                                    0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    genome sequence of Thermotoga maritima.";
Mature 399:323-329(1999).
EMBL; AE001754; AAD35974.1; -.
TIGR; TM0893; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Thermotoga maritima.
Bacteria; Thermotogales; Thermotoga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
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                                                                                                                                                     STRAIN=USDA 2061;
MEDLINE=99261640; PubMed=10331255;
                                                                                                                                                                                                                                                                            InterPro; IPR002509; -. Pfam; PF01522; Polysac_deacet; 1.
                                                                                                                                                                                                                                                                                                                                                                                 85.7%;
ilarity 71.4%;
Conservative
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71.48;
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Best Local Similarity 71.4°,
'-hos 5; Conservative
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Best Local Similarity
                                                                                                                                    SEQUENCE FROM N.A.
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09PPN8;
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Q9WZZ5;
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Q9PPN8
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                           Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                 Hatakeyama S., Kitagawa M., Nakayama K., Shirane M., Matsumoto M.,
Hattori K., Higashi H., Nakano H., Okumura K., Onoe K., Good R.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Wood V.;
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"Ubiquitin-dependent dedradation of IkB is mediated by a novel ubiquitin ligase SCFFWD1.";
Proc. Natl. Acad. Sci. U.S.A. 0:0-0(1999).
EMBL: AF083212; AAD16037.1;
InterPro: IPR001810;
InterPro: IPR001810;
                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 25; DB 11; Length 424; Pred. No. 98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              89.3%; Score 25; DB 3; Length 432; 71.4%; Pred. No. 1e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRAIN-972;
Connor R., Churcher C.M., Barrell B.G., Rajandream M.A.,
Submitted (DEC-1997) to the EMBL/GenBank/DDBJ databases.
-1- SIMILARITY: SOME, TO S.POMBE SPAC4G9.07.
EMBL; AL009197; CAA15728.1; -
Hypothetical protein.
SEQUENCE 432 AA; 49448 MW; C6CAEB860CCFDE9F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
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01-JAN-1999 (TrEMBLrel. 09, Last sequence update)
01-JAN-1999 (TrEMBLrel. 09, Last annotation update)
HYPOTHETICAL 49.4 KDA PROTEIN C10F6.15 IN CHROMOSOME I.
                                                                                                                                                                                                                                                                                                                                                                                   5B7945C979D26AF9 CRC64;
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Schizosaccharomyces pombe (Fission yeast).
Eukaryota; Fungi; Ascomycota; Schizosaccharomycetes; Schizosaccharomycetaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Created)
Last sequence update)
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0; Mismatches
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                                                                                                                  SEQUENCE FROM N.A.
STRAIN=F1(C57/BL6XCBA); TISSUE=THYMUS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRT;
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71.4%;
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01-MAY-1999 (TrEMBLrel. 10,
01-MAY-1999 (TrEMBLrel. 10,
                                                                                                                                                                                                                                                                                                                              Pfam; PF00646; F-box; 1.
PROSITE; PS50181; FBOX; 1.
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Best Local Similarity 71...
5. Conservative
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                                                                                                                                                                                                                                                                                                                 InterPro; IPR003592; -.
                                                                                                                                                                                                                                                                                                                                                                 SMART; SM00370; LRR; 1
SEQUENCE 424 AA; 47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Schizosaccharomyces.
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                                                                                NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   142 QTAVSHL 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=4896;
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042654;
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RESULT
042654
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DT 011
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Indels

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RESULT 0923L6 ID 09 AC 09 DT 01

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[3]
SEQUENCE FROM N.A.
MEDLINE-97061201; PubMed-8905231;
Kaneko T., Sato S., Kotani H., Tanaka A., Asamizu E., Nakamura Y.,
Miyajima N., Hirosawa M., Sugiura M., Sasamoto S., Kimura T.,
Hosouchi T., Matsuno A., Muraki A., Nakazaki N., Naruo K., Okumura S.
Shimpo S., Takeuchi C., Wada T., Watanabe A., Yamada M., Yasuda M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Sequence analysis of the genome of the unicellular cyanobacterium Synechocystis sp. strain PCC6803. II. Sequence determination of the entire genome and assignment of potential protein-coding region "; DNA Res. 3:109-136(1996).

EMBL; D64000; BAA10175.1; ...
InterPro; IPR000182; -...
Pfam, PF00583; Acetyltransf; 1.

Hypothetical protein.

SEQUENCE 302 AA; 33760 MW; 62D74D7F5B74564E CRC64;
                                                                                                                                                                                                                                                                                                                     MEDLINE-96127529; PubMed-8590279;
Kaneko T., Tanaka A., Sato S., Kotani H., Sazuka T., Miyajimu N., Sugiura M., Tabata S.;
Sugiura M., Tabata S.;
Sequence analysis of the genome of the unicellular cyanobacterium Synechocystis sp. strain PCC6803. I. Sequence features in the 1 Mb region from map positions 64% to 92% of the genome.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Actinomycetales; Streptomycineae; Streptomycetaceae; Streptomycas.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 24; DB 2; Length 3U2
Pred. No. 1.3e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRAIN=A3(2);
Seeger K.J., Harris D.;
Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                   Submitted (AUG-1995) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Streptomyces coelicolor.
Bacteria; Firmicutes; Actinobacteria; Actinobacteridae;
                                                                                                                                 Synechocystis sp. (strain PCC 6803).
Bacteria; Cyanobacteria; Chroococcales; Synechocystis
                                        01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-NAR-2001 (TrEMBLrel. 16, Last annotation update)
HYPOTHETICAL 33.8 KDA PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Last sequence update)
Last annotation update)
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01-0CT-2000 (TrEMBLrel. 15, Last seq
01-0CT-2000 (TrEMBLrel. 15, Last ann
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                85.78;
57.18;
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       PRELIMINARY;
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Best Local Similarity
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                                                                                                                                                                      NCBI_TaxID=1148;
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90 QTAIAHL 96
                                                                                                                                                                                                                              STRAIN=PCC6803;
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                                                                                                                                                                                                                                                Tabata S.;
     Q55655
Q55655;
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                                                                                                                                                                                                       STRAIN=SEROVAR 3;
MEDLINE=20500219; PubMed=11048724;
Glass J.I., Lefkowitz E.J., Glass J.S., Heiner C.R., Chen E.Y.,
Cassell G.H.;
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                                                                                           Ureaplasma parvum (Ureaplasma urealyticum biotype 1).
Bacteria: Firmicutes; Bacillus/Clostridium group; Mollicutes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Thermomonospora fusca.
Bacteria; Firmicutes; Actinobacteria; Actinobacteridae;
Actinomycetales; Streptosporangineae; Thermomonosporaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   85.7%; Score 24; DB 2; Length 265; 71.4%; Pred. No. 1.1e+02; tive 0; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          85.7%; Score 24; DB 2; Length 257, 71.4%; Pred. No. 1.1e+02;
                                                                                                                                                                                                                                                                               "The complete sequence of the mucosal pathogen Ureaplasma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2; Indels
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Spiridonov N.A., Wilson D.B.;
Spiridonov N.A., Wilson D.B.;
PepA and dlhA genes from Thermobifida fusca.";
Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
EMBL; AF218823; AAF25687.1; -.
InterPro; IPR00379; -.
InterPro; IPR002925; -.
Pfam; PF01738; DLH; 2.
                                                                                                                                                                                                                                                                                                                                                                                         Pfam; PF00398; RrnaAD; 1.
PROSITE; PS01131; RRNA_A_DIMETH; 1.
SEQUENCE 257 AA; 29781 MW; 85F54A69404ECC4C CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                265 AA; 29069 MW; 06C5A8E364BCDF8F CRC64;
01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
DIMETHYLADENOSINE TRANSFERASE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  265 AA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PUTATIVE DIENELACTONE HYDROLASE.
                                                                                                                               Mycoplasmataceae; Ureaplasma
                                                                                                                                                                                                                                                                                                                  Nature 407:757-762(2000).
EMBL; AE002158; AAF31015.1;
InterPro; IPR000051; -.
InterPro; IPR001737; -.
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Best Local Similarity 71.4.
اتا 5. Conservative
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Best Local Similarity
Matches 5; Conserv
                                                                                                                                                   NCBI_TaxID=134821;
                                                                                                                                                                                    SEQUENCE FROM N.A.
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97 QTAVDHL 103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           177 QSAVIHL 183
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CHR1.235.
Trypanosoma brucei.
Eukaryota: Euglenozoa; Kinetoplastida; Trypanosomatidae; Trypanosoma.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            85.7%; Score 24; DB 10; Length 476; 71.4%; Pred. No. 2e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.

Be Haan M., Maarse A.C., Grivell L.A., Mewes H.W., Lemcke Mayer K.F.X., Ouetier F., Salanoubat M.;

Submitted (NOV-1999) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                     Score 24; DB 2; Length 363;
Pred. No. 1.5e+02;
0; Mismatches 2; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EU Arabidopsis sequencing project;
Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; AL132962; CAB71079.1;
InterPro; IPR000743; ...
                            Evans I.M., Bown D., Gupta A., Morby A.P., Whitton B.A., Gatehouse J.A., Submitted (DEC-1996) to the EMBL/GenBank/DDBJ databases. EMBL; X09899; CAA71029.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       51939 MW; 48233D8B48A4BEDD CRC64;
                                                                                                                                                                    FAE7DB281D7E1BC9 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-0cr-2000 (TrEMBLrel. 15, Created)
01-0cr-2000 (TrEMBLrel. 15, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
PROBABLE AXONEME CENTRAL APPARATUS PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-0CT-2000 (TrEMBLrel. 15, Created)
01-0CT-2000 (TrEMBLrel. 15, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
HYPOTHETICAL 51.9 KDA PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pfam; PF00295; Glyco_hydro_28; 1.
PROSTIE; PS00217; SUGAR_TRANSPORT_2; UNKNOWN_1.
Hypothetical protein.
SEQUENCE 476 AA; 51939 MW; 48233D8B48A4BEDI
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                                                                                                                                                   363 363
363 AA; 43113 MW;
                                                                                                                                                                                                                           Query Match 85.7%;
Best Local Similarity 71.4%;
Matches 5; Conservative
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                                                                                                                Hypothetical protein.
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Best Local Similarity
Matches 5; Conserv
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FROM N.A.
                                                                                                                                                                                                                                                                                                                                              221 QEAVSHL 227
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SEQUENCE
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                                                                                  STRAIN-A3(2);
MEDLINE-97000351; PubMed-8843436;
MEDLINE-97000351; PubMed-8843436;
Redenbach M., Kieser H.M., Denapaite D., Eichner A., Cullum J.,
Kinashi H., Hopwood D.A.;
"A set of ordered cosmids and a detailed genetic and physical map for
the 8 Mb Streptomyces coellicolor A3(2) chromosome.";
Mol. Microbiol. 21:77-96(1996).
EMBL; AL137778; CAB70913.1; -.
Hypothetical protein.
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NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.

TISSUB-WHOLE EMBRYO, MAINLY HEAD;
ISOGAI T., Ota T., Hayashi K., Sugiyama T., Otsuki T., Suzuki Y.,
Isogai T., Ota T., Hayashi K., Sugino S., Takahashi-Fujii A., Hara H.,
Nishikawa T., Nadai K., Sugano S., Takahashi-Fujii A., Hara H.,
Tanase T., Nomura Y., Togiya S., Komai F., Hara R., Takeuchi K.,
Arita M., Nabekura T., Ishii S., Kawai Y., Saito K., Yamamoto J.,
Wakamatsu A., Nakamura Y., Nagahari K., Masuho Y., Oshima A.;
"NEDO human CDNA sequencing project.";
"NEDO human CDNA sequencing project.";
"Suzuhitted (AUG-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; AK021765; BAB13890.1; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-JUN-1998 (TrEMBLrel. 06, Created)
01-JUN-1998 (TrEMBLrel. 06, Last sequence update)
01-AUG-1998 (TrEMBLrel. 07, Last annotation update)
HYPOTHETICAL 43.1 KDA PROTEIN (FRAGMENT).
Calothrix viguieri.
Bacteria; Cyanobacteria; Nostocales; Rivulariaceae; Calothrix.
NOBI_TAXID=57746;
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Pred. No. 1.5e+02;
); Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                      Length 328
  Cerdeno A.M., Parkhill J., Barrell B.G., Rajandream M.A.;
Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                            328 AA; 37352 MW; D60E937C5C48321F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-WAR-2001 (TrEMBLrel. 16, Created)
01-WAR-2001 (TrEMBLrel. 16, Last sequence update)
01-WAR-2001 (TrEMBLrel. 16, Last annotation update)
                                                                                                                                                                                                                                                                                                                                    Score 24; DB 2; L6
Pred. No. 1.4e+02;
0; Mismatches 2;
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CDNA FLJ11703 FIS, CLONE HEMBA1005075.
Homo sapiens (Human).
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71.4%;
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Best Local Similarity 71.4.
5; Conservative
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Best Local Similarity
tches 5; Conserv
                                                                   SEQUENCE FROM N.A.
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86 QAAVLHL 92
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Q9HAF9

RESULT COSHAPS COSHAPS

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ID DT DT DT DT OC OC OC OX

RESULT 11

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Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
Pterryota; Neoptera; Endopterygota; Diptera; Brachycera; Muscumurphu.
Ephydroidea; Drosophilidae; Drosophila.
                Drosophila melanogaster (Fruit fly).
                                                                                             SEQUENCE FROM N.A.
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RA MEDLINE-20504483; PubMed=11016950;
RA NG W.V. Kennedy S.P., Mandalras G.G., Berquist B., Pan M.,
RA Shukla H.D., Lasky S.R., Baliga N.S., Thorsson V., Sbrogna J.,
RA Swartzell S., Weller K., Cruz R., Dahl T.A., Welti R., Goo Y.A.,
RA Heithauser B., Keller K., Cruz R., Danson M.J., Hough D.W.,
RA Maddocks D.G., Jablonski P.E., Krebs M.P., Angevine C.M., Dale H.,
RA Isenbarger T.A., Peck R.F., Pohlschroder M., Spydich J.L., Jung K.-H.,
RA Alam M., Freitas T., Hou S., Daniels C.J., Dennis P.P., Omer A.D.,
RA Gonome sequence of Halobacterium species NRC-1.";
Proc. Natl. Acad. Sci. U.S.A. 97:12176-12181(2000).
DK EMBL, AB004992; AAG18896.1; -
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0
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                                                Hall N., Bowman S., Quail M., Ivens A.C., Kay M.P., Bray-Allen S., Lennard N.J., Clark L.N., Harris B.R., Melville S., Lawson D., Cerrard C., Rajandream M.A., Barrell B.G.;
Submitted (JUN-2000) to the EMBL/GenBank/DDBJ databases.
EMBL, AL359782; CAB95504.1; -.
FinterPro; IPR000225; -.
Pfam; PF00514; Armadillo_seg; 8.
SWART; SM00185; ARM; 1.
SEQUENCE 513 AA; 56126 MW; 40BB4546AlB390C3 CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 85.7%; Score 24; DB 1; Length 614; Best Local Similarity 71.4%; Pred. No. 2.6e+02; Matches 5; Conservative 0; Mismatches 2; Indels
                                                                                                                                                                                                Score 24; DB 5; Length 513;
Pred. No. 2.2e+02;
0; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Archaea; Euryarchaeota; Halobacteriales; Halobacteriaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pfam; PF00535; Glycos_transf_2; 1.
SEQUENCE 614 AA; 64802 MW; DAD585C50B14DAB2 CRC64;
                                                                                                                                                                                                                                                                                                                                                              Q9HSB1;
01-MAR-2001 (TrEMBLrel. 16, Created)
01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Last sequence update)
Last annotation update)
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Halobacterium sp. (strain NRC-1).
                                                                                                                                                                                                                                                                                                                                                                                                                  DOLICHOL-P-GLUCOSE SYNTHETASE.
                                                                                                                                                                                                  Query Match 85.7%;
Best Local Similarity 71.4%;
Matches 5; Conservative
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                                                                                                                                                                                                                                                                                                                                                  PRELIMINARY;
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                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=64091;
                                                                                                                                                                                                                                                                        1 || ||
208 QDAVTHL 214
NCBI_TaxID=5691;
                                        STRAIN-TREU927;
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65 QSAVRHL 71
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Q9VAP3
ID Q9VAP3
AC Q9VAP3;
DT 01-MAY-
DT 01-WAY-
DT 01-WAY-
DE CG1188C
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SUCENCE FROM N.A.

RAY Adams M.D. Celniker S.E. I. P.W., Evans C.A., Gocayne J.D.,

RAM Amanatides P.G., Scherer S.E. I.i P.W., Hoskins R.A., Galle R.F.,

RAM Amanatides P.G., Scherer S.E. I.i P.W., Hoskins R.A., Galle R.F.,

RAM Amanatides P.G., Scherer S.E., I. P.W., Hoskins R.A., Galle R.F.,

RAM George R.A., Lewis S.E., Richards S., Sabburner M., Henderson S.N.,

Butch R.C., Rogers Y.H.C., Bazel R.G., Champe M., Picifite H.D.,

RAM Aril J.F., Apbayani A., An H.-J., Andrews Pfannkoch C., Baldwin D.,

Ballew R.M., Bans A., Berman B.P., Bhandari D., Botshakov S.,

RAB Ballew R.M., Cawles D. Botchan M.R., Bouck J., Brokstein D., Botshakov S.,

RAB Ballew R.M., Cawley S., Dahlke C., Davenport L., Beasley E.M.,

RADIOR R.V., Busam D.A., Butler H., Cadieu E., Center A., Chandra I.,

RA Burtis K.C., Busam D.A., Butler H., Cadieu E., Center A., Chandra I.,

RA Burtis K.C., Busam D.A., Butler H., Cadieu E., Center A., Chandra I.,

RA Burtis K.C., Busam D.A., Butler H., Cadieu E., Center A., Chandra I.,

RA Burtis K.J., Evangelista C.C., Ferraz C., Ferrice S., R.P.,

RA Dodson K., Doup L.E., Downes M., Dongan-Rocha S., Dunkov B.C., Dunn P.,

Bordon K.J., Evangelista C.C., Ferraz C., Ferrices S.,

RA Godek M., Harvey D., Helman T.J., Hei M.-H., Ibegwam C.,

RA Harris N.L., Harvey D., Helman T.J., Hei M.-H., Ibegwam C.,

RA Harris N.L., Harvey D., Helman T.J., Hei M.-H., Ibegwam C.,

RA Harris N.L., Lei Y., Leviteky A.C., McLeod M.P., McPherson D.,

RA Minmel B.E., Rodirco R.A., Howland T.J., Nei M.-H., Ibegwam C.,

RA Kimmel B.E., Rodirco R.A., Howland T.J., Nei M. M. N. Neison D.L.,

RA Harris N., Mattei B., McIncosh T.C., McLeod M.P., McDro D. M., Rithman G.S., Pan S., Pollard J. Moorshrefi A.

Rayler E., Spradling A.C., Stapleton M., Stupski M.P., Santh T.,

RA Shue B.C., Siden-Kiamos I., Simpson M., Stupski M.P., Santh T.,

RA Shue B.C., Siden-Kiamos I., Simpson M., Stupski M.P., Santh T.,

RA Sheng K.H., Woodage T.W., Worley K.C., Wu Sheng G., Zhao Q.A.,

RH, Sheng S.M., Woy W. Warphy B., McMay S.Y. San S.,

RH, S
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 90628 MW; 20961DD889A3EE3B CRC64;
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GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
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OM protein - protein search, using sw model

October 25, 2001, 11:25:20; Run on:

Search time 76.25 Seconds (without alignments) 7.992 Million cell updates/sec

US-09-630-333-5 28 1 XQXAVXHL 8 Title:

Perfect score: Sequence: BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

al number of hits satisfying chosen parameters: 219241 seqs, 76174552 residues Searched:

219241

seq length: 0 seq length: 2000000000 Minimum DB : Maximum DB :

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

PIR_68:* 1: pir1:* 2: pir2:* 3: pir3:* 4: pir4:* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Result		% Ouerv			SUMMARIES	
NO.	Score	Match	Length	DB	ID	Description
1	25	89.3	432	7	T37509	hypothetical prote
7	24	85.7	237	~	F72321	Ψ
m	24	85.7	257	~	E82871	dimethyladenosine
4	24	85.7	302	7	S76323	hypothetical prote
Ŋ	24	85.7	476	ď	T47941	
9	24	85.7	614	N	D84191	Н
7	24	85.7	1467	ď	T48162	hypothetical prote
ထ	24	85.7	1510	~	D64120	_
6	23	82.1	82	7	WQECPH	phosphotransferase
10	23	82.1	82	7	WQEBPH	phosphotransferase
11	23	82.1	82	Н	S12749	phosphotransferase
12	23	82.1	82	Н	164137	phosphotransferase
13	23	82.1	82	~	B85884	PTS system protein
14	23	82.1	166	~1	A75426	hypothetical prote
15	23	82.1	174	7	G71478	hypothetical prote
16	23	82.1	241	7	T36164	hypothetical prote
17	23	82.1	276	N	T35693	σ
18	23	82.1	320	7	809639	variant surface gl
19	23	82.1	366	N	T44937	glucose 1-dehydrog
20	23	82.1	419	~	C82109	glutamyl-tRNA redu
21	23	82.1	432	7	T06851	glutamyl-tRNA redu
22	23	82.1	470	7	S71355	glucocorticoid-att
23	23	82.1	472	~	A55508	interferon alpha I
24	23	82.1	475	7	D83202	alginate biosynthe
25	23		495	7	B71311	probable thiophene
56	23		496	7	A69691	ATP-dependent DNA
27	23	82.1	497	~	F83634	hypothetical prote
78	23		546	7		probable t-complex
59	23	82.1	595	~	T17590	

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T30958	T02824	A32560	C82120	S24407	A41724	S53089	S11515	S22812	S75071	TVHURS	A69679	BSTD	A82521	529093	BSTDY
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23	73	23	23	23	23	23	23	23	23	23	23	22	22	22	22

ALIGNMENTS

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SULT	75,

RESULT 1 737509 Hypothetical protein SPAC10F6.15 - fission yeast (Schizosuccharom, pomit, C. Species: Schizosaccharomyces pombe C. Species: Schizosaccharomyces pombe C. Species: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 03 Dec-1999

C; Accession: T37509
R; Connor, R.; Churcher, C.M.; Barrell, B.G.; Rajandream, M.A.; Wood, V. Submitted to the EMBL Data Library, November 1997
A; Reference number: Z21719
A; Accession: T37509
A; Status: preliminary; translated from GB/EMBL/DDBJ
A; Molecule type: DNA
A; Residues: 1-432 <CON>
A; Molecule type: DNA
A; Residues: 1-432 <CON>
A; Molecule type: DNA
A; Residues: 1-432 <CON>
A; Cross references: EMBL: AL009197; PIDN: CAA15728.1; GSPDB: GN000666; A; DBS: C; Genetics: A; Gene: SPDB: SPAC10F6.15

A; Map position:

Gaps ., Length 432, 2; Indels DB 2; Score 25; DB 2 Pred. No. 44; 0; Mismatches Query Match 89.3%; Best Local Similarity 71.4%; Matches 5; Conservative

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2 QXAVXHL 8 Dp δλ

142 QTAVSHL 148

RESULT 2
P7231
bacitracin resistance protein - Thermotoga maritima (strain MSBB)
C;Species: Thermotoga maritima
C;Date: 11-Jun-1999 #sequence_revision 11-Jun-1999 #text_change 21-Jul-2000
C;Accession: F7231
R;Nelson, K.E.; Clayton, R.A.; Gill, S.R.; Gwinn, M.L.; Dodson, R.J.; Hatt, D.Garrett, M.M.; Stewart, A.M.; Cotton, M.D.; Pratt, M.S.; Phillis. C.A.; Richar

Nature 399, 323-329, 1999 A;Title: Evidence for lateral gene transfer between Archaea and Barturia from . A;Reference number: A72200; MUID:99287316

A; Accession: F72321 A; Status: preliminary A; Molecule type: DNA

A; Residues: 1-237 <ARN>
A; Residues: 1-237 <ARN>
A; Cross-references: GB:AE001754; GB:AE000512; NID:g4981417; PIIN:A:45974.1; P:I...
A; Experimental source: strain MSB8
C; Genetics:
A; Gene: TM0893
C; Superfamily: Escherichia coli bacitracin resistance protein bacA

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A; Residues: 1-476 <DEH>
A; Cross-references: EMBL:AL132962
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71.4%;
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Best Local Similarity 71.4%;
Matches 5; Conservative
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A,Introns: 155/1; 213/2; 237/1
A,Note: F2A19.90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 85.7
Best Local Similarity 71.4
Matches 5; Conservative
                                                                                                                                                               A; Reference number: 224480
                                                                                                                                                                                                                                     A; Status: preliminary
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C;Accessi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Cross-references: GB:AE002158; GB:AF222894; NID:g6899599; PIDN:AAF31015.1; GSPDB:GN001
A;Experimental source: serovar 3; biovar 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Francko, T.; Sato, S.; Kotani, H.; Tanaka, A.; Asamizu, E.; Nakamura, Y.; Miyajima, N.; Sofumura, S.; Shimpo, S.; Takeuchi, C.; Wada, T.; Watanabe, A.; Yamada, M.; Yasuda Res. 3, 109-136, 1996
A;Title: Sequence analysis of the genome of the unicellular cyanobacterium Synechocystis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NID:g1001484; PIDN:BAA10175.1; PID:g100154
to the EMBL Data Library, June 1996
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376323
hypothetical protein sl10310 - Synechocystis sp. (strain PCC 6803)
C;Species: Synechocystis sp.
A;Variety: PCC 6803
C;Date: 25-Apr-1997 #sequence_revision 25-Apr-1997 #text_change 20-Jun-2000
                                                                                                                                                                                                                                                                                                                                                                  dimethyladenosine transferase UU601 [imported] - Ureaplasma urealyticum
C;Species: Ureaplasma urealyticum
C;Date: 18-Aug-2000 #sequence_revision 20-Aug-2000 #text_change 02-Sep-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                         Gaps
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A;Accession: S76323
A;Status: nucleic acid sequence not shown; translation not shown
A;Molecule type: DM
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   Length 237;
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T47941
Mypothetical protein F2A19.90 - Arabidopsis thaliana
DB 2;
42;
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A;Gene: No. 101601
A;Gene: Code: SGC3
C;Superfamily: rRNA (adenine-N6-)-methyltransferase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5;
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Pred. No. 46;
0; Mismatches
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Pred. No. 56;
1; Mismatches
                                                                  0; Mismatches
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A; Cross-references: EMBL:D64000; GB:AB001339;
A; Note: the nucleotide sequence was submitted
85.7%; Score 24; 71.4%; Pred. No. 4
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71.4%;
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illarity 57.1%;
Conservative
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Best Local Similarity 71...
5; Conservative
                                                                  Conservative
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Best Local Similarity
Matches 4; Conserv
                               Best_Local Similarity
Matches 5; Conserv
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38 QTAVLHL 44
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Query Match
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C,Accession: D84191
R;Ng, W.V.; Kennedy, S.P.; Mahairas, G.G.; Berquist, B.; Pan, M.; Shukla, H.D.; Leithauser, B.; Keller, K.; Cruz, R.; Danson, M.J.; Hough, D.W.; Maddocks, D.D.; Jung, K.H.; Alam, M.; Frettas, T.
Proc. Natl. Acad. Sci. U.S.A. 97, 12176-12181, 2000
A;Authors: Hou, S.; Daniels, C.J.; Dennis, P.P.; Omer, A.D.; Ebhardt, H.; Lowe, H.; A;Title: Genome sequence of Halobacterium species NRC-1.
A;Reference number: A84160; MUID: 20504483
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C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 20-Apr-2000 #sequence_revision 20-Apr-2000 #text_change 20-Apr-2000
C;Accession: T48162
R;Bevan, M.; Pohl, T.; Weizenegger, T.; Bancroft, I.; Mewes, H.W.; Lrincke, K.; Mayer, submitted to the Protein Sequence Database, March 2000
A;Reference number: 224486
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 20-Apr-2000 #sequence_revision 20-Apr-2000 #text_change 20-Apr-200".
C;Accession: T47941
R;De Haan, M.; Maarse, A.C.; Grivell, L.A.; Mewes, H.W.; Lemcke, K.; Mayer, K.F.X submitted to the Protein Sequence Database, January 2000
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C;Species: Halobacterium sp. NRC-1
C;Date: 02-Feb-2001 #sequence_revision 02-Feb-2001 #text_change 02-Feb-2001
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A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-1467 < BEV>
A;Cross-references: EMBL:AL161746
A;Experimental source: cultivar Columbia; BAC clone T1008
                                                                                                                                                                                                                                                                                                                                             A, Experimental source: cultivar Columbia; BAC clone F2A19 C; Genetics:
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Pred. No. 1.2e+02;
0; Mismatches 2;
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Pred. No. 93;
0; Mismatches
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Page

C; Genetics:

RESULT D64120

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A;Cross-references: GB:AE000329; GB:U00096; NID:q2367137; PIDN:AAC75468.1; PID:q17887
A;Experimental source: strain K-12, substrain MG1655
R;Prasad, L.; Delbaere, L.T.; Quail, J.W.; Vandonselaar, M.
submitted to the Brookhaven Protein Data Bank, April 1993
A;Reference number: A52379; PDB:LJEL
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R; van Nuland, N.A.J.; Groetzinger, J.; Dijkstra, K.; Scheek, R.M.; ...billaid,
Bur. J. Blochem. 210, 881-892, 1992

A; Title: Determination of the three-dimensional solution structure... the histid.
A; Reference number: A58912; MUID: 93130914
A; Contents: annotation; conformation by (1)H-, (13)C-, and (15)N NMK
R; van Nuland, N.A.J.; Scheek, R.M.; Robillard, G.T.
A; Reference number: A66357; PDB: 1PFH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Contents: annotation; X-ray crystallography, 2.8 angstroms, residues 1 2, E, A R; Sharma, S.; Georges, F.; Delbeere, L.T.J.; Lee, J.S.; Klevit, R.E.; Waygwod, Proc. Natl. Acad. Sci. US.A. 88, 4877-4881, 1991
A; Title: Epitope mapping by mutagenesis distinguishes between the two tertiary A; Reference number: A39710; MUID:91271296
A; Contents: annotation; site-directed mutagenesis
R; Jia, Z.; Quail, W.; Delbaere, L. Submitted to the Brookhaven Protein Data Bank, October 1993
A; Reference number: A51916; PDB:1POH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Cross-references: GB:M21451; NID:g145684; PIDN:AAA23655.1; PID:g145687
R;Blattner, F.R.; Plunkett III, G.; Bloch, C.A.; Perna, N.T.; Burland, V.; Riley.
.A.; Rose, D.J.; Mau, B.; Shao, Y.
                                                                                                                                                                                                                                                                A;Cross-references: GB:M21994; NID:g147261; PIDN:AAA24384.1; PID:g14':63
R;Byrne, C.R.; Monroe, R.S.; Ward, K.A.; Kredich, N.M.
J. Bacteriol. 170, 3150-3157, 1988
A;Title: DNA sequences of the cysk regions of Salmonella typhimurium and Eschen A;Reference number: A28181; MUID:88257033
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A;Title: High-resolution structure of the phosphorylated form of the historians
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R;Van Nuland, N.A.J.; Scheek, R.M.; Robillard, G.T.
submitted to the Brochhaven Protein Data Bank, February 1994
A;Reference number: A52354; PDB:HDN
A;Contents: annotation; conformation by (1)H-, (13)C-, and (15)N-NMK, restring F;van Nuland, N.A.J.; Hangyi, I.W.; van Schaik, R.C.; Berendsen, H.J.C.; ....
A;Thile: The high-resolution structure of the histidine-containing pluspl.
A)Cross-references: GB:M10425, NID:g147394; PIDN:AAA24438.1; PID:: 1995
R; De Reuse, H.; Danchin, A, 3827-3837, 1988
J. Bacteriol, 170, 3827-3837, 1988
A)Title: The ptsH, ptsI, and crr genes of the Escherichia coli phosphwenoli A; Reference number: A32345; MUID:88314869
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A; Contents: annotation; X-ray crystallography, 1.5 angstroms, residues 1-R; Mapper, S.; Anderson, J.W.; Georges, F.; Quail, J.W.; Delbaere, L.T.J.; Biochemistry 35, 11260-11267, 1996
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Science 277, 1453-1462, 1997
A; Title: The complete genome sequence of Escherichia coll K·12.
A; Reference number: A64720; MUID:97426617
A; Accession: F65015
A; Status: nucleic acid sequence not shown; translation not shown
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Reference number: A58916; MUID: 94210480
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A; Residues: 1-85 <BLAT>
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A; Residues: 1-85 <DER2>
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A; Residues: 1-85 <BYR>
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A; Authors: Gnehm, C.L.; McDonald, L.A.; Small, K.V.; Fraser, C.M.; Smith, H.O.; Venter, A; Title: Whole-genome random sequencing and assembly of Haemophilus influenzae Rd. A; Reference number: A64000; MUID:95350630
A; Reference number: A64000; MUID:95350630
A; Reference number: A64000; MUID:95350630
A; Residues: nucleic acid sequence not shown; translation not shown
A; Molecule type: DNA
A; Molecule type: DNA
A; Residues: 1-1510 <TIGR>
A; Cross-references: GB:U32817; GB:L42023; NID:91574201; PIDN:AAC23022.1; PID:91574208; T
C; Geneticion:
C; Geneticion:
A; Description: required for chromosome partitioning
C; Superfamily: Escherichia coli mukB protein
C; Reywords: ATP; coiled coil; nucleotide binding; P-loop
F;75-82/Region: nucleotide-binding motif A (P-loop)
                            A;Introns: 68/2; 121/3; 152/3; 178/1; 234/2; 291/3; 331/3; 516/3; 698/3; 721/3; 760/3; 2
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|te: 18-Aug-1995 #sequence_revision 18-Aug-1995 #text_change 02-Feb-2001
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Pred. No. 3.4e+02;
0; Mismatches 2; Indels
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71.4%;
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Conservative
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          A; Map position: 5
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QKAVEHL 77

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A.Authors: Gnehm, C.L.; McDonald, L.A.; Small, K.V.; Fraser, C.M.; Swith, H.O.; . Lie A.Title: Whole-genome random sequencing and assembly of Harmophilu: i..lluenza: A.Authors: Gnehm, C.L.; McDonald, L.A.; Small, K.V.; Fraser, C.M.; Swith, H.O.; . Lie A.Fritle: Whole-genome random sequencing and assembly of Harmophilu: i..lluenza: A.Recession: 164137
A.Accession: 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 phosphotransferase system phosphohistidine-containing protein – Haemophilus influenza
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                                                                                                                                                                                                                            phosphotransferase system phosphohistidine-containing protein - Klebsiella C;Species: Klebsiella pneumoniae | C;Species: Klebsiella pneumoniae | C;Species: Klebsiella pneumoniae | C;Species: Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Sep-16-C;Accession: S12749 | R;Titgemeyer, F: Eisermann, R: Hengstenberg, W: Lengeler, J.W. Nucleic Acids Res. 18, 1898, 1990 | A;Title: The nucleotide sequence of ptsH gene from Klebsiella pneumoniae. A;Reference number: S12749; MuID:90245592
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C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Scp-1999
C;Accession: I64137
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C;Superfamily: phosphotransferase system phosphohistidine-containing protein; phosphotra
C;Keywords: phosphocarrier protein; phosphohistidine; phosphoprotein; phosphotransferase
F;8-84/Domain: phosphotransferase system phosphohistidine-containing protein homology <H
F;15/Binding site: phosphate (His) (covalent) (by phosphotransferase system enzyme I) #8
F;46/Binding site: phosphate (Ser) (covalent) #status predicted
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R;Schnierow, B.J.; Yamada, M.; Saier Jr., M.H.
MAD. Microbiol. 3, 113-118, 1989
A;Title: Partial nucleotide sequence of the pts operon in Salmonella typhimurium: compar A;Reference number: S04159; MUID:89237892
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A;Title: Mutation of serine-46 to aspartate in the histidine-containing protein of A;Reference number: A58915; MUID:96378616
A;Contents: annotation; X-ray crystallography, 1.5 angstroms
C;Comment: This protein is phosphorylated by the phosphotransferase system enzyme I Systems.
C;Genetics:
A;Gene: ptsH
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DB 2; Length 174; 56; 2; Indels

0; Mismatches Score 23; Pred. No. 5

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A,Cross-references: GB:AE001343; GB:AE001273; NID:g3329176; PIDN:AA:58319.1; Lid A,Experimental source: serotype D, strain UW-3/Cx C;Genetics: A,Genetics: A,Gene: CT724
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Similarity 71.4%;
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hypothetical protein CT724 - Chlamydia trachomatis (serotype D, strain UW3/Cx)
hypothetical protein CT724 - Chlamydia trachomatis
C;Species: Chlamydia trachomatis
C;Species: Chlamydia trachomatis
C;Species: Chlamydia trachomatis
C;States: 13-Sep-1998 #sequence_revision 13-Sep-1998 #text_change 08-Oct-1999
C;Accession: G71478
A;Tthe: Genome sequence of an obligate intracellular pathogen of humans: Chlamydia trac
A;Reference number: A11570; MUID:99000809
A;Tttle: Genome sequence of an obligate intracellular pathogen of humans: Chlamydia trac
A;Accession: G71478
A;Accession: G71478
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-174 <ARN>
C;Date: 16-Feb-2001 #sequence_revision 16-Feb-2001 #text_change 31-Mar-2001 C;Accession: B85884
R;Perna, N.T.; Plunkett III, G.; Burland, V.; Mau, B.; Glasner, J.D.; Rose, D.J.; Mayhew Iller, L.; Grotbeck, E.J.; Davis, N.W.; Lim, A.; Dimalanta, E.; Potamousis, K.; Apodaca, Nature 409, 529-533, 2001
A;Titler, Genome sequence of enterohemorrhagic Escherichia coli O157:H7.
A;Reference number: A85480; MUID:21074935; PMID:11206551
A;Accession: B85884
A;Statuus: preliminary
A;Molecule type: DNA
A;Residues: 1-85 <STO>
A;Cross-references: GB:AE005174; NID:q12516791; PIDN:AAG57534.1; GSPDB:GN00145; UWGP:236
A;Cross-references: strain O157:H7, substrain EDL933
C;Genetics:
A;Gene: ptsH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A75426.

Bypothetical protein - Deinococcus radiodurans (strain R1)

C; Baceles: Deinococcus radiodurans

C; Baceles: Deinococcus radiodurans

C; Accession: A75426

B; Mhite, O.; Eisen, J.A.; Heidelberg, J.F.; Hickey, E.K.; Peterson, J.D.; Dodson, R.J.;

A. M.; Shan, M.; Vanathevan, J.J.; Lam, P.; McDonald, L.; Utterback, T.; Zalewski, C.; Ma.

S.; Smith, H.O.; Venter, J.C.; Fraser, C.M.

Science 286, 1571-1577, 1999

A.7Tille: Genome sequence of the radioresistant bacterium Deinococcus radiodurans R1.

A.Reference number: A75250; MUID:20036896

A.Status: preliminary

A.Molecule type: DNA

A.Residues: 1-166 < WHI>
A.Koss-references: GB-AE001968; GB-AE000513; NID:g6458930; PIDN:AAF10769.1; PID:g645893
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Pred. No. 53;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 23; DB 2; Length 85;
Pred. No. 25;
0; Mismatches 2; Indels
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71.48;
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71.48;
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Best Local Similarity 71.4
Matches 5; Conservative
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Best Local Similarity 71.4
Matches 5; Conservative
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A;Gene: DR1194
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October 25, 2001, 11:27:43; Search time 135.34 Seconds (without alignments) 7.821 Million cell updates/sec
GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                                                                                                                                                                                                                    425026 seqs, 132305027 residues
                                                                         OM protein - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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40
1 XQWXVGHI 8
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Perfect score:
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425026 pl number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries sp_rodent:*
sp_unclassified:*
sp_vertebrate:*
sp_virus:* sp_archea:*
sp_bacteria:*
sp_fungl:*
sp_human:*
sp_human:*
sp_novertebrate:*
sp_mammal:*
sp_mhc:*
sp_organelle:* sp_plant:* SPTREMBL_16:* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Description	Q9vzf7 drosophila	Q9u0v1 leishmania	Q90253 bombina ori	Q9ui28 homo sapien	Q9uve4 zygosacchar	Q9p6yl neurospora	Q9wwt3 pseudomonas	Q9fi20 arabidopsis	Q9jn79 streptomyce	P72284 rhizobium l	O06656 rhizobium l	P72288 rhizobium l	Q9fdg4 rhizobium e	Q9v5c9 drosophila	Q9z7l5 chlamydia p	008612 mus musculu	P95600 rhizobium e	Q9ssd5 arabidopsis	Q9ulh1 homo sapien
ID	Q9VZF7	Q900V1	090253	Q9UI28	Q9UVE4	Q9P6Y1	Q9WWT3	Q9F120	95N79	P72284	006656	P72288	Q9FDG4	Q9V5C9	Q927L5	008612	P95600	Q9SSD5	о90гн1
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% Query Match	87.5	87.5	85.0	85.0	85.0	85.0	82.5	82.5	82.5	82.5	82.5	82.5	82.5	80.0	80.0	80.0	80.0	80.0	80.0
Score	35	35	34	34	34	34	33	33	33	33	33	33	33	32	32	32	32	32	32
Result No.	-	7	က	4	5	9	7	80	6	10	11	12	13	14	15	16	17	18	19

043150 homo sapien	097902 bos taurus	Q99wy8 mus musculu	Q9ps30 oncorhynchu	Q9xvr9 caenorhabdi	Q9nh76 naegleria f	Q91829 carassius	P73885 synechocyx1	Q32721 nicotiana t	Q9hv19 pseudomonas	09sy04 arabidopsi	Q99986 homo sapier.	Q15114 homo sap	Q9n4q4 c. chorhabd	Q9i3g3 pseudomona:	Q9i3g0 pseudomonas	Q9hwp8 pseudomonas	Q9ks19 vibrio chol	Q912n9 paradomonas	'n sjinacia o'	Q%wyb7 thermoteg	Q9zhr7 azospirill.	030727 rhodobacter	Q53111 rhodobacter	Q51679 paracoccus	
4 043150 11 092286	9	11 Q9QWY8	13 Q9PS30	ึง	2	13 Q91829	7		7	10 Q9SY04	4	4	'n	~	~	N	2 Q9KS19	7	10 Q9M3J5		2 Q9ZHR7	2 030727	2 Q53111	2 Q51679	
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80.0	80.0		•	77.5	77.5	77.5		77.5	•	77.5	•	•	77.5	77.5	77.5	77.5	•	77.5	77.5	•	77.5	77.5		77.5	
32	32	32	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	
20	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	

ALIGNMENTS

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MEDLINE-96205965; PubMed-8631814;
MEDLINE-96205965; PubMed-8631814;
Nagalla S.R., Barry B.J., Falick A.M., Gibson B.W., Taylor J.E.,
Nagalla S.R., Saindel E.R.;
"There are three distinct forms of bombesin. Identification of
[Leu13] bombesin, [Phet3] bombesin, and [Ser3, Arg10, Phe13] bombesin in
the frog Bombina orientalis.";
J. Biol. Chem. 271:7731,7731(1996).

EMBL; U49450; AAC59784.1; -.
                                                                                                                                                                                                                                                                                                                                                                                              Bombina orientalis (Oriental fire-bellied toad).
Eukaryota, Metazoa, Chordata, Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Archeobatrachia; Bombinatoridae; Borrit
NCBI_TaxID-8346;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euleleostana;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Huang C., Zhang C., Wu T., Peng Y., Gu Y., Zhang L., Jiang C., Han Z., Wang Y., Chen Z., Fu G.;
Han Z., Wang Y., Chen Z., Fu G.;
"A novel gene expressed in human adrenal gland.";
Submitted (DEC-1998) to the EMBL/GenBank/DDBJ databases.
EMBL; AF110776; AAF14859.1; -.
InterPro: IPR0010051; -.
SEQUENCE 224 AA; 25474 MW; 8BB11B3FA7804CD3 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 34; DB 13; Length 119;
Pred. No. 9.8;
0; Mismatches 1; Indels
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Best Local Similarity 57.1%; Pred. No. 19;
Matches 4; Conservative 2; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PHE-13 BOMBESIN.
3C9BDF367441E99A CRC64;
                                                                                                                                                                                                                                                                  01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
PHE-13 BOMBESIN PREPROHORMONE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-MAY-2000 (TrEMBLrel. 13, Created)
U-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
ADRENAL GLAND PROTEIN AD-003.
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PROSITE; PS00257; BOMBESIN; 1.
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ilarity 83.3%;
Conservative (
                                                                                                                                                                                                         PRELIMINARY;
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Best Local Similarity
Matches 5; Conserv
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          131 QWTLGHI 137
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51 QWAVGH 56
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Mount S.M., Moy M., Murphy B., Murphy L., Muzny D.M., Nelson D.L.,
Relson D.R., Nelson K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
Relson D.R., Pittman G.S., Pan S., Pollard J., Puri V., Reese M.G.,
Reinert K., Remington K., Saunders R.D.C., Scheeler F., Shen H.,
Reinert K., Siden-Klamos I., Simpson M., Skupski M.P., Smith T.,
Shee B.C., Siden-Klamos I., Simpson M., Skupski M.P., Smith T.,
Spier E., Spradling A.C., Stapleton M., Skupski M.P., Smith T.,
Svirskas R., Tector C., Turner R., Venter E., Wang A.H., Wang X.,
Williams S.M., Woodage T., Worley K.C., Wu D., Yang S., Yao Q.A.,
Milliams S.M., Moodage T., Worley K.C., Wu D., Yang S., Yao Q.A.,
R. John K.F., Zaveri J.S., Zhan M., Zhang G., Zheng L.,
Zheng X.H., Zhong F.N., Zhong W., Zhou X., Zhu S., Smith H.O.,
Gibbs R.A., Myers E.W., Rubin G.M., Venter J.C.;
The genome sequence of Drosophila melanogaster.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                          -!- SIMILARITY: TO IMMUNOGLOBULIN AND MAJOR HISTOCOMPATIBILITY COMPLEX DOMAIN.
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NCBI_TaxID=5664;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Masuy D., Purnelle B., Goffeau A., Ivens A.C., Lawson D., Quail M., Rajandream M.A., Barrell B.G.; Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
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BEDLINE-98146435; Pubmed-9477341;
Ivens A.C., Lewis S.M., Bagherzadeh A., Zhang L., Chan H.M.,
Smith D.F.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "A physical map of the Leishmania major Friedlin genome.";
Genome Res. 8:135-145(1998).
EMBL; AL122012; CAB58416.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 35; DB 5; Length 266; Pred. No. 14; 1; Mismatches 1; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pfam; PF00047; 1g; 4. SEQUENCE 266 AA; 29823 MW; FC97694BDFF80F33 CRC64;
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PROSTITE; PS00044; HTH_LYSR FAMILY; UNKNOWN 1.
PROSTITE; PS001215; MITOCH_CARRIER; UNKNOWN 2.
SEQUENCE 399 AA; 43755 WW; A3D4E510517865C8 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
MITOCHOBRAL CARRIER PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            399 AA.
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71.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; AE003480; AAF47866.2;
HSSP; P56276; lTLK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FlyBase; FBgn0001257; ImpL2.
InterPro; IPR003006; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 71.4%,
-hoa 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPR000847; -. InterPro; IPR001993; -.
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SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Leishmania major.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRAIN-FRIEDLIN;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 QWXVGHI 8
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STRAIN-COLUMBIA;
MEDLINE-99397451; PubMed-10470850;
MEDLINE-99397451; PubMed-10470850;
Miyajima N.; Tabata S.;
Structural analysis of Arabidopsis thaliana chromosome 5. 'Structural analysis of the regions of 1,011,550 bp covered by seventeen an analysis of the regions of 1,011,550 bp covered by seventeen and a sequence features of the regions of 1,011,550 bp covered by seventeen and a sequence features.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosid; II; Brassicales; Brassicaceae; Arabidopsis.
                                                                                                                                                                     Bacteria; Proteobacteria; gamma subdivision; Pseudomonadaceae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 33; DB 10; Length 252;
Pred. No. 34;
2; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 211;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                           STRAIN-PRS2000;
Nichols N.N., Harwood C.S.;
Machols v.N., Harwood C.S.;
Aarotaxis receptor of Pseudomonas putida PRS2000.";
Submitted (JUL-1998) to the EMBL/GenBank/DDBJ databases.
EMBL; AF079997; AAD22404.1; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; AB017065; BAB09152.1; -.
SEQUENCE 252 AA; 28622 MW; F93F8EE657D284B2 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                23566 MW; F113AF955610BBE5 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-MAR-2001 (TrEMBLrel. 16, Created)
01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
GENOWIC DNA, CHROMOSOME 5, P1 CLONE.MFC16.
Arabidopsis thaliana (Mouse-ear cress)
                                                                                             Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 33; DB 2;
Pred. No. 28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             252 AA.
                                      211 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pred. No. 28;
0; Mismatches
                                                                                         01-NOV-1999 (TrEMBLrel. 12, Last sequence 01-MAR-2001 (TrEMBLrel. 16, Last annotatic HYPOTHETICAL 23.6 KDA PROTEIN (FRAGMENT).
                                                                  01-NOV-1999 (TrEMBLrel. 12, Created)
01-NOV-1999 (TrEMBLrel. 12, Last seq.
01-MAR-2001 (TrEMBLrel. 16, Last anno
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57.1%;
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83.3%;
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Interpro: IPR000160; ...
Interpro: IPR001610; ...
Pfam; PF00785; PAC; 1.
Pfam; PF00989; PAS; 1.
SMART; SM00267; DUF9; 1.
Hypothetical protein.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5; Conservative
                                        PRELIMINARY;
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                                                                                                                                                    Pseudomonas putida.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                211 AA;
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                                                                                                                                                                                                        NCBI_TaxID=303;
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                                                                                                                                                                                         Pseudomonas
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                                                          09WWT3;
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                                      O9WWT3
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                     Q9WWT3
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                                                                                                                                                                                                                                                                                                                STRAIN=CBS 732;
Sychrova H., Brann V., Potier S., Souciet J.L.;
Sychrova H., Brann V., Potier S., Souciet J.L.;
"Genomic organization of Pichia sorbitophila and Zygosaccharomyces
rouxii genomes:comparison with Saccharomyces cerevisiae.";
Submitted (DEC-1998) to the EMBL/GenBank/DDBJ databases.
EMBL; Y18560; CA862288.1; -.
                                                                                                                                                                                             Zygosaccharomyces rouxii (Candida mogii).
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
Saccharomycetales; Saccharomycetaceae; Zygosaccharomyces.
NCBI_TaxID=4956;
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Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Sordariales; Sordariaceae; Neurospora.
NCBI_TaxID=5141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 3; Length 256;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A. Schulte U., Aign V., Hoheisel J., Brandt P., Fartmann B., Nyakatura G., Mewes H.W., Mannhaupt G.; Submitted (APR-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            85.0%; Score 34; DB 3; Length 232; 71.4%; Pred. No. 19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
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Submitted (APR-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; AA135820; CAB88603.1; -.
InterPro; IRRO1601; -.
SEQUENCE 256 AA; 27789 WW; 5251FBC58B6BDDD9 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    26369 MW; 43CD832A6ED7F6B4 CRC64;
                                                                                                                          01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
HYPOTHETICAL 26.4 KDA PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
CONSEXED HYPOTHETICAL PROTEIN.
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ا
                                                                                           232 AA
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                                                                                           PRT;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5; Conservative
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                                                                                           PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hypothetical protein. SEQUENCE 232 AA; 2
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Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
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SEQUENCE FROM N.A.
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136 QWVIGHL 142
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-!- COFACTOR: TWO HEME (A AND A3) GROUPS AND COPPER B (BY SIMILARITY).
-!- PATHWAY: TERMINAL STEP IN THE RESPIRATORY CHAIN (BY SIMILARITY).
-!- SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN (BY SIMILARITY).
-!- SUBCELLULAR: BECONGS TO THE HEME-COPPER RESPIRATORY OXIDASE FAMILY.
                                                                                                                                                                                                                                                                                             FERRICYTOCHROME C.

-!- COFACTOR: TWO HEME (A AND A3) GROUDS AND COPPER B (BY SIMILARITY).

-!- PATHWAY: TERMINAL STEP IN THE RESPIRATORY CHAIN (BY SIMILARITY).

-!- SUBCELLULAR LOCATION: INTEGRAL EMBRANE PROTEIN (BY SIMILARITY).

-!- SIMILARITY: BELONGS TO THE HEME-COPPER RESPIRATORY OXIDASE FAMILY.
                                  Schluter A., Patschkowski T., Quandt J., Selinger L.B., Weidner S., Kramer M., Zhou L., Hynes M., Priefer U.; "Functional and regulatory analysis of the two copies of the fixNOQP
                                                                                                                                                                                                      Patschkowski T., Schlueter A., Priefer U.; "Rhizobium leguminosarum bv. viciae contains a second fnr/fixK-like gene and an unusual fixL homologue.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRAIN-UPM791;
Gutierrez D., Hernando Y., Palacios J., Imperial J., Ruiz-Argueso Submitted (FEB-1997) to the EMBL/GenBank/DDBJ databases.
---- CATALYTIC ACTIVITY: 4 FERROCYTOCHROME C + O(2) = 2 H(2)O · ·
                                                                                                                                                                                                                                                            Mol. Microbiol. 21:267-280(1996). --- CATALYTIC ACTIVITY: 4 FERROCYTOCHROME C + O(2) = 2 H(2)0 + 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Rhizobium leguminosarum.
Bacteria; Proteobacteria; alpha subdivision; Rhizobiaceae group;
                                                                                                                                                                                                                                                                                                                                                                                                                                             Pfam; PF00115; COX1; 1.
PROSITE; PS00077; COX1; 1.
COPPER; Heme; Oxidoreductase; Respiratory chain; Transmombrane.
SEQUENCE 539 AA; 60883 MW; 886DC41633BF8307 CRC64;
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COPPER; Heme; Oxidoreductase; Respiratory chain; Transmembrane. SEQUENCE 540 AA; 61003 MW; 0BF0CA019C798BD2 CRC64; ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 539;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-JUL-1997 (TrEMBLrel. 04, Created)
01-JUL-1997 (TrEMBLrel. 04, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last amoniation update)
CBB3-TYPE CYTOCHROME OXIDASE COMPONENT FIXN (EC 1.9.3.1).
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                                                                                         operon of Rhizobium leguminosarum strain VF39.";
Mol. Plant Microbe Interact, 10:605-616(1997).
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74;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 33; DB Pred. No. 74;
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42.9%; Pred. No. 74;
iive 3; Mismatches
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                   MEDLINE-97348582; Pubmed-9204566;
                                                                                                                                                                                  MEDLINE=97011572; PubMed=8858582;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3;
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                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro; IPR000883;
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Best Local Similarity
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les 3; Conserv
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398 EWTIGHV 404
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                                                                                                                              [2]
SEQUENCE OF
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Matches
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"Genes involved in methylenomycin biosynthesis from plasmid SCP1 of
Streptomyces coelicolor A3(2).";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                proteins
                                                                                                                                                                                                                                                                            Bacteria; Firmicutes; Actinobacteria; Actinobacteridae;
Actinomycetales; Streptomycineae; Streptomycetaceae; Streptomyces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Resistance, regulatory and production genes for the antibiotic methylenomycin are clustered."; EMBO J. 4.1893-1897(1985). IRBMD J. A. 1.8893-1897(1985). InterPro: IPR001155;
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"Nucleotide sequence analysis reveals similarities between a factoring methylenomycin A resistance in Streptomyces and tetracycline resistance in eubacteria.";
Gene 58:229-241(1987).
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                                                                                                          387 AA.
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83.3%; Pred. No. 53;
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MEDLINE=88112873; PubMed=2828187;
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MEDLINE=85284984; PubMed=2992952;
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01-0CT-2000 (TrEMBLrel. 15,
01-MAR-2001 (TrEMBLrel. 16,
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01-FEB-1997 (TFEMBLrel. 0:
01-FEB-1997 (TFEMBLrel. 0:
01-MAR-2001 (TFEMBLrel. 1:
FIXNC (EC 1.9.3.1).
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Best Local Similarity
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147 QWCIGHL 153
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60778 MW; 1B6984488887CFBE CRC64;
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           540 AA;
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Best Local Similarity
Matches 3; Conserv
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Plasmid.
SEQUENCE
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"Differential regulation of fixN reiterated genes in Rhizobium etli by
a novel fixL-fixK cascade.";
Submitted (MAX-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; AF273679; AAG00947.1;
                                                                                                                                                                                                                                                                                                                                                                                                                    -!- COFACTOR: TWO HEME (A AND A3) GROUPS AND COPPER B (BY SIMILARITY).
-!- PATHWAY: TERMINAL STEP IN THE RESPIRATORY CHAIN (BY SIMILARITY).
-!- SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN (BY SIMILARITY).
-!- SIMILARITY: BELONGS TO THE HEME-COPPER RESPIRATORY OXIDASE FAMILY.
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-!- CATALYTIC ACTIVITY: 4 FERROCYTOCHROME C + O(2) = 2 H(2)O + 4
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NCBI_TaxID=384;
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42.9%; Pred. No. 74;
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MEDLINE=97348582; PubMed=9204566;
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PROSITE; PS00077; COX1; 1.
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399 EWTIGHV 405
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399 EWTIGHV 405
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01-MAR-2001
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P72288
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RA Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
RA Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
RA Adams M.D., Celniker S.E., Holt R.A., Fashburner M., Hoders. D.N.,
RA Gocaye R.A., Lewis S.E., Richards S., Ashburner M., Hoders. D.N.,
RA Sutton G.G., Wortman J.R., Yandell M.D., Sabhurner M., Hoders. D.N.,
RA Button G.G., Wortman J.R., Yandell M.D., Chen L.X
Brandon R.C., Rogers Y.-H.C., Blazej R.G., Champe M., Pfeitter P. D.,
RA Abril J.E., Agbayani A., An H.-J., Andrews-Pfannkoch C., Baldwin D.,
RA Beeson K.Y., Basu A., Baxendale J., Baytaktaroll L., Beasley E.M.,
RA Beeson K.Y., Banos P.V., Berman B.P., Bhandari D., Bolshakov S.
RA Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottier P.,
RA Cherry J.M., Cawley S., Dallike C., Davenport L.B., Davies P.,
RA Cherry J.M., Cawley S., Dallike C., Davenport L.B., Davies P.,
RA Gocao R., Doup L.E., Downes M., Dugan-Rocha S., Pleiz S.M.,
RA Glodek A., Gong F. Gorrell J.H., Gu Z., Gelbart W., Glasser K.,
RA Glodek A., Gong F. Gorrell J.H., Gu Z., Gelbart W., Glasser K.,
RA Glodek A., Gong F. Gorrell J.H., Gu Z., Glan P., Harris M.
Harris N.L., Harvey D., Heiman T.J., Wei M.-, Ibeywam C.,
Allalm M., Kalush F., Karpen G. H., Ke Z., Kunp D., Lai Z.,
RA Liu X., Mattei B., McIntosh T.C., McIeod M.P., Mopherson D.,
RA Liu X., Mattei B., McIntosh T.C., McIeod W.P., Morherson D.,
RA Rainert K., Remington K., Sungskern D.R., Parly V., Lin X.,
Ralazolo M., Pittman G.S., Pan S., Pollard J., Wang X.,
Randert K., Remington K., Sungskern D.R., Parly V., Mang X.,
Randert K., Remington K., Sungskern D.R., Wang X.,
Randert S., Wassarman D.A., Walsherock M., Wang X., Yao Q.A.,
Randert S., Wassarman D.A., Walsherock M., Wang X., Yao Q.A.,
Randert S., Wassarman D.A., Walsherock M., Wang S., Yao Q.A.,
Rander S., Wassarman D.A., Walsherock M., Wang S., Yao Q.A.,
Rander S., Waysers E.W., Rollon G. M., Venter E., Wang G., Wallender R., Yehrer S., Shen S., Shen S., Shen S., Shen S., Shore S., Shon S., Shen S., Shen S., Shon S., Shen S., Shen S., Shen
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Drosophila melanogaster (Fruit fly).
Bukaryota, Metazoa, Arthropoda, Tracheata, Hexapoda, Insecta,
Pterygota, Neoptera, Endopterygota, Diptera, Brachycera, Musromorpha,
Ephydroidea, Drosophilidae, Drosophila.
                                                                                  Gap:
    Length 540;
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01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
    5;
Score 33; DB
Pred. No. 74;
                                                                                       Mismatches
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MEDLINE=20196006; PubMed=10731132;
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EMBL; AE003831; AAF58883.1;
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82.5%;
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                                                                                                                                                                                                                                                                                                                                                                                                          STRAIN=CWL029;
MEDLINE=99206666; PubMed=10192388;
Kalman S., Mitchell W., Marathe R., Lammel C., Fan J., Hyman R.W.,
Olinger L., Grimwood J., Davis R.W., Stephens R.S.;
"Comparative genomes of Chlamydia pneumoniae and C. trachomatis.";
Nat. Genet. 21:385-389(1999).
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MEDLINE=20150255; PubMed=10684935;

Read T.D., Brunham R.C., Shen C., Gill S.R., Heidelberg J.F.,

White O., Hickey E.K., Peterson J., Umayam L.A., Utterback T.,

Berry K., Bass S., Linher K., Weidman J., Khouri H., Craven B.,

Bowman C., Dodson R., Gwinn M., Nelson W., DeBoy R., Kolonay J.,

McClarty G., Salzberg S.L., Eisen J., Fraser C.M.,

"Genome sequences of Chlamydia trachomatis Mopn and Chlamydia

pneumoniae AR39.";

Nucleic Acids Res. 28:1397-1406(2000).
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80.0%; Score 32; DB 5; Length 276; 57.1%; Pred. No. 59; 1; Indels ive 2; Mismatches 1; Indels
                                     1; Indels
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Pfam; PF00266; aminotran, 5; 1.
PROSITE; PS00295; AA_TRANSFER_CLASS_5; UNKNOWN_1.
Transferaes, Aminotransferase.
SEQUENCE 406 AA; 44600 MW; 2180F627878A0F96 CRC64;
                                                                                                                                                                                                           01-MAY-1999 (TrEMBLrel. 10, Created)
01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
01-OCT-2099 (TrEMBLrel. 15, Last annotation update)
01-OCT-2000 (TrEMBLrel. 15, Last annotation update)
NIFS-RELATED AMINOTRANSFERASE.
YFHQ_1 OR CPOOS7.
TOTAL OR CPOOS7.
Bacteria: Chlamydiales; Chlamydiaceae; Chlamydiales.
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MEDLINE=20330349; PubMed=10871362;
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EMBL; AP002547; BAA98896.1;
EMBL; AE002169; AAF73623.1;
TIGR; CP00577;
                                   Conservative
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Query Match
Best Local Similarity
Matches 4; Conserv
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SEQUENCE FROM N.A.
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Query Match 80.0%; Score 32; DB 2; Length 406; Best Local Similarity 57.1%; Pred. No. 88; Matches 4; Conservative 2; Mismatches 1; Indels

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Qy Dp

2 QWXVGHI 8

Search completed: October 25, 2001, 11:27:44 Job time: 447 sec

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azorhizobiu
rana ridibu
scyliorhinu
canis famil
gallus gall
sus scrofa
alligator m
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P01296 bombina var
P21531 bombina ori
Q09024 drosophila
P08945 litoria aur
P4291 pseudophryn
P08950 rana pipien
P38340 saccharomyc
P4343 xenopus lae
P08340 escharichia
P08472 scyliorhinu
P09472 scyliorhinu
P09472 scyliorhinu
P09472 scyliorhinu
P08989 canis famil
P01295 gallus gall
P01295 gallus gall
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P01294 sus scroin
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P01294 bombina ori
P26212 bacillus su
P26212 bacillus su
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P26373 rattus nory
P07492 aprobacteri
Q05572 rhizobium m
Q03572 rhizobium m
Q0572 rhizobium m
Q0578 sarbidopsis
P56785 arabidopsis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  agrobacteri
rhizobium m
bradyrhizob
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arabidopsis
nicotiana t
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escherichia
                                                            (without alignments)
6.790 Million cell updates/sec
                                                                                                                                                                                                                                                                      Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                  October 25, 2001, 11:28:29; Search time 40.36 Seconds
                                                                                                                                                                                                                                                                                                                                     Description
GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd
                                                                                                                                                                     al number of hits satisfying chosen parameters:
                                                                                                                                                     93435 seqs, 34255486 residues
                                                                                                                                                                                                                                                                                                                                                                                                                   YB9H_YEAST
NEUB_XENIA
LIVH_ECOLI
FIXN_AZOCA
GRP_RANRI
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HERP_HUMAN
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IML2_DROME
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YCF1_OENBE
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BOMB_BOMVA
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Maximum Match 100%
Listing first 45 summaries
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11 1 RANC_RANPI 17 1 RANR_RANRU 195 1 VMT2_INBAC 195 1 VMT2_INBAC 195 1 VMT2_INBAC 195 1 VMT2_INBAC 195 1 VMT2_INBSI 278 1 VGIYEAST 390 1 CBL_MLVCN 392 1 POL4_NASVI 474 1 CBLC_HUMAN 732 1 YAGR_ECOLI 896 1 CBL_MOUSE	ALIGNMENTS	STANDARD; PRT; 14 AA.	09, Created) 28, Last sequence update) 37, Last annotation update)	nns (Midwife toad). Da; Chordata; Craniata; Vertebrata; nia; Anura; Archeobatrachia; Discog	MEDLINE-84131098; PubMed=6141890; MEDLINE-84131098; PubMed=6141890; MEStpamer V., Erspamer G.F., Mazzanti G., Endean R.; "Active peptides in the skins of one hundred amphibian species from Australia and Papua New Guinea."; Comp. Biochem. Physiol. 77C:99-108(1984).	774; mbesin; 1. HOMBESIN; 1. Amidation. PYRROLIDONE CARBOXYLIC ACID 14 AMIDATION. 1554 MW; D3C4E4D3AF129666 CRC64;	90.0%; Score 36; DB 71.4%; Pred. No. 0.19 vative 1; Mismatches		D; Created) Last seg Last ann low-bell bellied ordata; nura; Ar
30 75.0 30 75.0 30 75.0 30 75.0 30 75.0 30 75.0 30 75.0 30 75.0 30 75.0 30 75.0		1 LYOB LYT_ALYOB	P08944; 01-NOV-1988 (Rel. 01-FEB-1994 (Rel. 15-DEC-1998 (Rel.	ALYTESIN. Alytes obstetricans (Alytes obstetricans (Eukaryota, Metazoa, C Amphibia, Batrachia; NCBI_TaxID=8443;	SEQUENCE. MEDLINE-84131098; PubMed=Erspamer V., Erspamer G.F. "Active peptides in the sAustralia and Papua New Gomp. Blochem. Physiol. 7:- SIMILARITY: BELONGS T	InterPro; IPR000874; Pfam; PF02044; Bombesin; 1. PROSITE; PS00257; BOMBESIN; Bombesin family; Amidation. MOD_RES 14 14 SEQUENCE 14 AA; 1554 MW;	/ Match Local Simi nes 5;	2 QWXVGHI 8 : 7 QWAVGHL 13	LT 2 BOMB_BOMVA STANDARD; P01296; 21-JUL-1986 (Rel. 01, Created 01-FEB-1991 (Rel. 17, Last se 01-FEB-1995 (Rel. 31, Last an BOMBESIN PRECURSOR. BOMBESIN PRECURSOR. BOMBINA VARIEGATA (Yellow-bel BOMDINA DOMDINA (Fire-bellied Eukaryota; Metazoa; Chordata; Amphibia; Batrachia; Anura; A MCBL_TAXID=348, 8345; [1] SEQUENCE FROM N.A. SEQUENCE FROM N.A. SEDUENCE PROM N.A.
		SUL YT_			R R R R R R R R R R R R R R R R R R R		Query Best Matcl	Qy	RESULT 2 BOMB_BONNDA ID BOMB_A AC P0129 DT 01-FE DT 01-FE DT 01-FE DE BOMBE OS BOMDI OC BURAR OC BURAR OC AMDHI OX AMDHI

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IML2_DROME
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--I- FUNCTION: STIMULATES SMOOTH MUSCLE CONTRACTION. ROLE IN INDUCTION OF HYPOTHERMIA, STIMULATION OF DNA REPLICATION AND RELEASE OF MANY GASTROINTESTINAL HORMONES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=91088602; PubMed=2263631; Spindel E.R., Glbson B.W., Reeve J.R. Jr., Kelly M.; Spindel E.R., Glbson B.W., Reeve J.R. Jr., Kelly M.; "Cloning of cDNAs encoding amphibian bombesin: evidence for the relationship between bombesin and gastrin-releasing peptide."; Proc. Natl. Acad. Sci. U.S.A. 87:8813-9817(1990).
-!- FUNCTION: STIMULATES SMACH MUSCLE CONTRACTION. ROLE IN INDUCTION OF HYPOTHERMIA, STIMULATION OF DNA REFLICATION AND RELEASE OF MANY
Richter K., Egger R., Kreil G.; "Molecular cloning of a cDNA encoding the bombesin precursor in skin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
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Amphibia; Batrachia; Anura; Archeobatrachia; Bombinatoridae; Bombina
                                                                                                                   Anastasi A., Erspamer V., Bucci M.; "Isolation and amino acid sequences of alytesin and bombesin, two analogous active tetradecapeptides from the skin of European
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AMIDATION (G-56 PROVIDE AMIDE GROUP). 9692B50600FAF618 CRC64;
                                                                                                                                                                                                                                        SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bombesin family; Amidation; Cleavage on pair of basic residues;
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01-MAY-1991 (Rel. 18, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
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Pred. No. 1.3;
1; Mismatches
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                                                                                       SPECIES-B.variegata, and B.bombina;
MEDLINE=72163516; PubMed=4537042;
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                                           FEBS Lett. 262:353-355(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE; PS00257; BOMBESIN; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            90.0%;
71.4%;
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InterPro; IPR000874; -.
Pfam; PF02044; Bombesin; 1.
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Matches 5; Conservative
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55
42
                               variegata.
                                                                                                                                                                discoglossid frogs.";
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42
42
55
107 AA;
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PIR; B01564; BSTDY
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                                                                         SEQUENCE OF 42-55
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P21591;
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MOD_RES
SEQUENCE
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GASTROINTESTINAL HORMONES.
TISSUE SPECIFICITY: LOCALIZED TO THE CUTANEOUS GRANULAR GLANDS IN
THE SKIN AND THE BRAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscamorpha;
Ephydroidea; Drosophilidae; Drosophila.
NCBI_TaxID=7227;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AMIDATION (G-59 PROVIDE AMIDE GROUP). 3A3D84EA2445A4A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN-CANTON-S; TISSUE-Embryo;
MEDLINE-94139565; Pubmed-830686;
Garbo J.C., Yang E., Fristrom Jw.;
TMP-LZ: an essential secreted immunoglobulin family member implicated in neural and ectodermal development in Drosophil. ";
Development 119:1237-1250(1993).
-1- FUNCTION: ESSENTIAL DEVELOPMENTAL ROLE DURING EMBRYOGENESIS,
PARTICULAR THE NORMAL DEVELOPMENT OF THE NERVOUS SYSTEM. MAY
                                                               SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
                                                                                                                                                                                                                                                                                                                                                                 Pfan, PF02044; Bombosin; 1.
PROSITE; PS00257; BOMBESIN; 1.
Bombesin family; Amidation; Cleavage on pair of basic residues;
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Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insect...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 1; Length 119;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-FEB-1995 (Rel. 31, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
NEURAL/ECTODERMAL DEVELOPMENT FACTOR IMP-L2 PRECURSOR.
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58 AM
13863 MW;
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45
58
119 AA;
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Best Local Similarity
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01-FEB-1995 (Rel.
15-JUL-1999 (Rel.
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                                                                                                                                                                                                                                                                                                                                               POTENTIAL. NEURAL/ECTODERMAL DEVELOPMENT FACTOR IMP-
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Amastasi A., Montecucchi P.C., Angelucci F., Erspamer V., Endean R.;

Alu(OMe)3-litorin, the second bombesin-like peptide occurring in

methanol extracts of the skin of the Australian frog Litoria aurea.";

Experientia 33:1289-1289(1977).

-! SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Neobatrachia; Bufonoidea; Hylidae;
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Anastesi A., Erspamer V., Endean R.;
"Aminoacid composition and sequence of litorin, a bombesin-like
nonapeptide from the skin of the Australian leptodactylid frog
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ó
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Pred. No. 4.6;
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IG-LIKE C2-TYPE DOMAIN.
IG-LIKE C2-TYPE DOMAIN.
BY SIMILARITY.
BY SIMILARITY.
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InterPro; IPR003006; -.
Pfam; PF00047; ig; 2.
Immunoglobulin domain; Cell adhesion; Signal.
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01-FEB-1994 (Rel. 28, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
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71.4%;
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                                                                                                                                                                                  EMBL; L23066; AAB59251.1; -. HSSP; P56276; 1TLK.
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240
173
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PIR; S07205; S07205.
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76
191
173
263 AA;
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Best Local Similarity
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P08945;
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DISULFID
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SEQUENCE
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TISSUE=Skin;
MEDLINE=90287814; PubMed=2356157;
Simmaco M., Severini C., de Biase D., Barra D., Bossa F.,
Simmaco M., Severini C., de Biase D., Barra D., Bossa F.,
Roberts J.D., Melchlorri P., Erspamer V.;
"Six novel tachykinin- and bombesin-related peptides from the skin ...
the Australian frog Pseudophryne guntheri.";
Peptides 11:299-304(1990).
-- SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pseudophryne guentheri (Frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eutelessani;
Amphibia; Batrachia; Anura; Neobatrachia; Bufonoidea; Myobatachidae;
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Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Neobatrachia; Ranoidea; Ranidae; Rana.
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         Length 9;
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D6DE0D24BD98C366 CRC64;
   Score 34; DB 1; I
Pred. No. 9.3e+04;
); Mismatches 1;
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Pred. No. 0.45;
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Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                        01-NoV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
01-NOV-1995 (Rel. 32, Last annotation update)
BOMBESIN-LIKE PEPFILDE L (PG-L).
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01-NOV-1988 (Rel. 09, Last sequ
15-DEC-1998 (Rel. 37, Last anno
85.0%;
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                                                               Conservative
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   Query Match
Best Local Similarity
Matches 5; Conserv
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Best Local Similarity
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6 QWAVGH 11
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                                                                                                                     2 QWXVGH 7
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P42991;
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P08950;
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BOML_PSEGU
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S32963; S32963.
S0000465; YBR261C.
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MOD_RES
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                                                                                                       This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Doignon F., Biteau N., Crouzet M., Aigle M., "The complete sequence of a 19,482 bp segment located on the right arm of chromosome II from Saccharomyces cerevisiae.";
                                                                                                                                                                                                                                                                                                                             AMIDATION (G-59 PROVIDE AMIDE GROUP) 09194FFD0E7436DE CRC64;
                                 Nakajima T., Tanimura T., Pisano J.J.;
"Isolation and structure of a new vasoactive polypeptide.";
Fed. Proc. 29:282-282(1970).
-i- SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
Saccharomycetales; Saccharomycetaceae; Saccharomyces.
                                                                                                                                                                                                                                                                   Cleavage on pair of basic residues;
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01-0CT-1994 (Rel. 30, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
HYPOTHETICAL 26.1 KDA PROTEIN IN POP4-SHM1 INTERGENIC REGION.
YBR261C OR YBR1729.
                                                                                                                                                                                                                                                                                                                                                                                Score 34; DB 1; Length 82; Pred. No. 2.5;
                                                                                                                                                                                                                                                                                                                                                                                                        1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  232 AA.
                                                                                                                                                                                                                                                                                                                                                                                                        0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Yeast 9:189-199(1993).
-!- SIMILARITY: TO S.POMBE SPAC16E8.14C.
                                                                                                                                                                                                                                                                                                                     RANATENSIN
Biol. Chem. 263:13317-13323(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRT;
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47
58
58
9159 MW;
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                                                                                                                                                                                                        EMBL; M21552; AAA49533.1; -.
                                                                                                                                                                                                                                                                    Bombesin family; Amidation;
                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 83.5.
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28
48
58
82 AA;
                        SEQUENCE OF 48-58
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51 QWAVGH 56
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P38340;
                                                                                 FAMILY
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SEQUENCE
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-1- FUNCTION: MAY BE A GROWTH FACTOR REQUIRED FOR THE HIGH KATE OF CELL DIVISION ENSUING AFTER FERTILIZATION, OR MAY HAVE A ROLE AS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
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Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SECRETAGOGUE THAT TRIGGERS THE RELEASE OF STORED COMPONENTS. TISSUE SPECIFICITY: BRAIN, INTESTINE, AND OVARIES AND EARLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBRYOS (STAGES 2 AND 10).
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"Isolation and sequence of a cDNA encoding the precursor of a
bombesin-like peptide from brain and early embryos of Xenopus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AMIDATION (G-55 PROVIDE AMIDE GF 2CB146BA082A2442 CRC64;
                                                                                                       Length 232;
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Pred. No. 5.6;
1; Mismatches 1; Indels
                                                                                                                                                           Indels
Hypothetical protein.
SEQUENCE 232 AA; 26068 MW; 66699F37B0013088 CRC64;
                                                                                                    DB 1;
6.5;
                                                                                                                                                                                                                                                                                                                                                                                       NEUB_XENLA STANDARD; PRT; 120 AA. P43443; 01-NOV-1995 (Rel. 32, Created) 1-NOV-1995 (Rel. 32, Last sequence update) 15-JUL-1999 (Rel. 38, Last annotation update)
                                                                                                    Score 34; DB Dred. No. 6.5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NEUROMEDIN B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Xenopus laevis (African clawed frog)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE-Brain;
MEDLINE-93028554; PubMed-1409705;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            InterPro; IPR000874; -. Pfam; PF02044; Bombesin; 1. PROSITE; PS00257; BOMBESIN; 1
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71.4%;
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                                                                                                                                                        5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NEUROMEDIN B PRECURSOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    24
44
54
54
54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Xenopodinae; Xenopus
NCBI_TaxID=8355;
                                                                                                       Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120 AA;
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                            139 QWCVGHL 145
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us-09-630-333-6.rsp

P08340;

RESULT 10 LIVH_ECOLI

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32936
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Best Local Similarity 42.9.
                                                                                                                Conservative
                                                                                                                                                                                                                                                                 STANDARD;
 253
288
 253
288
308 AA;
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                                                                                Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 \frac{331}{332}
                                                                                                                                                                              140 QWVVGH 145
                                                                                                                                                 2 QWXVGH 7
                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=7;
                                                                                                                                                                                                                                                                FIXN_AZOCA
P98056;
CONFLICT
CONFLICT
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 METAL
SEQUENCE
                                                                                                                                                                                                                               RESULT 11
FIXN_AZOCA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.

STRAIN-KI2 / MG1655;

MFDLINE-9431650; PubMed-8041620;

Sofia H.J. Burland V., Daniels D.L., Plunkett G. III, Blattner F.R.;

Sofia H.J., Burland V., Daniels D.L., Plunkett G. III, Blattner F.R.;

"Analysis of the Escherichia coli genome. V. DNA sequence of the region from 76.0 to 81.5 minutes.";

Nucleic Acids Res. 22:2576-2586(1994).

I. FUNCTION: PART OF THE BINDING-PROTEIN-DEPENDENT TRANSPORT SYSTEM BRANCHED-CHAIN AMINO ACIDS. PROBABLY RESPONSIBLE FOR THE THE SUBSTRATES ACROSS THE MEMBRANE.

-I- SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN. INNER MEMBRANE.

-I- SIMILARITY: WITH INTEGRAL MEMBRANE COMPONENTS OF OTHER BINDING-PROTEIN. DEPENDENT TRANSPORT SYSTEMS. BELONGS TO THE LIVHM
                                                                                                                                                                                                                                                                                                              Nazos P.M., Antonucci T.K., Landick R., Oxender D.L.; "Cloning and characterization of livH, the structural gene encoding a component of the leucine transport system in Escherichia coli.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              essential genes for the LIV-I and LS transport systems of Escherichia
                                                                                                        01-AUG-1988 (Rel. 08, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
HIGH-AFFINITY BRANCHED-CHAIN AMINO ACID TRANSPORT SYSTEM PERMEASE
PROTEIN LIVH (LIV-I PROTEIN H).
                                                                                                                                                                                                                                                                                                                                                                                                                         Adams M.D., Wagner L.M., Graddis T.J., Landick R., Antonucci T.K. Gibson A.L., Oxender D.L.;
"Nucleotide sequence and genetic characterization reveal six
                                                                                                                                                                                                       Bacteria; Proteobacteria; gamma subdivision; Enterobacteriaceae;
Escherichia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EcoGene; DOLLOCOC,
Interpro; IPR000515; -.
PROSITE; PS00402; BPD_TRANSP_INN_MEMBR; FALSE_NEG.
                                                                308 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              POTENTIAL.
POTENTIAL.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            coli.";
J. Biol. Chem. 265:11436-11443(1990).
                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
MEDLINE-90307651; PubMed-2195019;
                                                                                                                                                                                                                                                                                              MEDLINE-86195847; PubMed-3009409;
                                                                                                                                                                                                                                                                                                                                                              Bacteriol, 166:565-573(1986).
                                                                                               08, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; AEC00421; AAC76482.1; -. PIR; A24548; QRECLH.
PIR; D37074; D37074.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; J05516; AAA83884.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               U00039; AAB18432.1;
                                                               STANDARD;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 42
66
89
1125
1175
224
2266
301
                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                               Escherichia coli
                                                                                                                                                                                                                                               NCBI_TaxID=562;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SUBFAMILY.
                                                                                               01-AUG-1988
                                                             LIVH_ECOLI
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EMBL; EMBL;

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                                                                                                                                                                                                                     j
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                and symbiotic nitrogen fixation.";
FEMS MAICABLOIL LECT. 114:185-189(1993).
FINALCABLOIL LECT. 114:185-189(1993).
FLONGTION: CYTOCHROME COXIDAGE IS THE COMPONENT OF THE RESPIRATORY CHAIN THAT CATALYZES THE REDUCTION OF OXYGEN TO WATER. SUBRUITS 1 3 FORM THE FUNCTIONAL CORE OF THE BUXZME COMPLEX. CO IT. : HE CATALYZIC SUBUNIT OF THE ENZYME. ELECTRONS ORIGINATION IN CATALYZIC SUBUNIT OF THE BUXZME. ELECTRONS ORIGINATION IN CYTOCHROME C OR A QUINOL ARE TRANSFERRED.TO THE BIMETALLI: CENTUR-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -!- SIMILARITY: BELONGS TO THE HEME-COPPER RESPIRATORY OXIDAS: FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mandon K., Kaminski P.A., Mougel C., Desnoues N., Elmerich C., "Role of the fixGHI region of Azorhizobium caulinodans in free living
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                               car.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IRON (HIGH-SPIN HEME) (BY SIMILARLI).

1RON (LOW-SPIN HEME) (BY SIMILARLI).

0466F71CD04BFC4D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Azorhizobium caulinodans, Bacteria; Broteobacteria; Proteobacteria; alpha subdivision; Rhizobiaceae greaf. Hyphomicrobium group; Azorhizobium,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     InterPro, IPR000883; --
Pfam; PF00115; COX1; 1.
PROSITE; PS00077; COX1; 1.
Oxidoreductase; Heme; Copper; Transmembrane; Respiratory chan.
                                                                                                                                                                                                               ۮ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ల
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FORMED BY A HIGH-SPIN HEME AND COPPER B. CATALYTIC ACTIVITY: 4 FERROCYTOCHROME C + O(2) = 2 H(2)0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 32; DB 1; Length 551;
Pred. No. 36;
                                                                                                                                                   Length 308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1; Indels
                                                                                                                                                                                                               1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-FEB-1996 (Rel. 33, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
01-FEB-1996 (Rel. 33, Last annotation update)
CYTOCHROME C OXIDASE POLYPEPTIDE I HOMOLOG (EC 1.9.3.1).
G -> S (IN REF. 3).
P -> L (IN REF. 3).
C88A5FC17319E4A5 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COPPER B (BY SIMILARITY)
COPPER B (BY SIMILARITY)
COPPER B (BY SIMILARITY)
                                                                                                                                                   1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      551 AA.
                                                                                                                                                DB
13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3; Mismatches
                                                                                                                                                                                                           Mismatches
                                                                                                                                                Score 33;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRAIN=ORS571;
MEDLINE=94109675; PubMed=8282187;
                                                           ΜM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421 I
61843 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       80.0%;
                                                                                                                                                82.5%;
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δy g RESULT 12
GRP_RANRI
ID GRRP_RA
AC P2326/B
DT 01-NO
DT 01-NO
DT 01-NO
DT 01-NO
CO RADA
OC RADA
OC AMPHI

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27 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      27 AA.
                                                                                         Score 31; DB Pred. No. 3.2; 1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NEUROMEDIN C.
                                                                                                                                                                                                                                                                PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro; IPR000874; -.
Pfam; PF02044; Bombesin; 1.
PROSITE; PS00257; BOMBESIN; 1.
BOmbesin family; Amidation.
18 27 NE
PS00257; BOMBESIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GASTROINTESTINAL HORMONES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               77.5%;
ilarity 66.7%;
Conservative
                                                                                          77.58;
66.78;
                              25 25
25 AA; 2781 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2889 MW;
              Bombesin family; Amidation.
MOD_RES 25 25
                                                                                                                         4; Conservative
                                                                                                                                                                                                                                                                STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NEUROMEDIN C (GRP-10)].
                                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=9615;
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                                                                                                                                                                      | |||:
19 WAVGHL 24
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21 WAVGHL 26
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                                                                                                                                                                                                                                                           GRP_CANFA
P08989;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GRP_CHICK
P01295;
                             MOD_RES
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOD_RES
SEQUENCE
PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gallus
                                                                                                                         Matches
                                                                                                                                                                                                                                 RESULT 14
GRP_CANFA
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Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 15
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ID GRP_C

AC 21-JU

DT 21-JU

DT 21-JU

DT 21-JU

DE GASTE

GN GRP.

OS GRINER

OC BURAR

OC ARCHO

OX NCBIL
NA KW
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0
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Conlon J.M., O'Harte F., Vaudry H.,
"Primary structures of the bombesin-like neuropeptides in frog brain show that bombesin is not the amphibian gastrin-releasing peptide."; Biochem. Biophys. Res. Commun. 178:526-530(1991),
-1- SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-MAR-1989 (Rel. 10, Created)
01-MAR-1989 (Rel. 10, Last sequence update)
01-MAR-1992 (Rel. 21, Last annotation update)
01-MAR-1992 (Rel. 21, Last annotation update)
6ASTRIN-RELEASING PEPTIDE (GRP).
5Cyliorhinus canicula (Spotted dogfish) (Spotted catshark).
6Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Chondrichthyes; Elasmobranchii; Galeomorphii; Galeoidea; Carcharhiniformes;
8Cyliorhinidae; Scyliorhinus.
                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Neobatrachia; Ranoidea; Ranidae; Rana.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conlon J.M., Henderson I.W., Thim L.;
"Gastrin-releasing peptide from the intestine of the elasmobranch fish, Sqyliorhinus canicula (common dogfish).";
Gen. Comp. Endocrinol. 68:415-420(1987).
-i. FUNCTION: GRP STIMULATES GASTRIN RELEASE AS WELL AS OTHER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -!- SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AMIDATION.
F81FBAE862CDC371 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 31; DB 1;
Pred. No. 1.4;
1; Mismatches
                                                                                                                                                 01-NOV-1991 (Rel. 20, Created)
01-NOV-1991 (Rel. 20, Last sequence update)
01-APR-1993 (Rel. 25, Last annotation update)
NEUROMEDIN C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 25 AA.
                                                                                                                       10 AA
                                                                                                                                                                                                               Rana ridibunda (Laughing frog) (Marsh frog)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=88137922; PubMed=3436516;
                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro; IPR000874; -. Pfam; PF02044; Bombesin; 1. PROSITE; PS00257; BOMBESIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GASTROINTESTINAL HORMONES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        77.5%;
66.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              10 AA; 1094 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bombesin family; Amidation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            InterPro; IPR000874; -. Pfam; PF02044; Bombesin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best_Local Similarity 66.7
Matches 4; Conservative
                                                                                                                       STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                   PIR; PQ0177; PQ0177.
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                              :| :||:
414 EWGIGHV 420
                                                                                                                                                                                                                                                            NCBI_TaxID=8406;
            2 QWXVGHI 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3 WXVGHI 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | |||:
4 WAVGHL 9
                                                                                                                                                                                                                                                                                                          TISSUE=Brain;
                                                                                                                      GRP_RANRI
P23260;
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P09472;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOD_RES
SEQUENCE
                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
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SCYCA

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Gallus gallus (Chicken).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Squi
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21-JUL-1986 (Rel. 01, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
GASTRIN-RELEASING PEPTIDE (GRP) (PROVENTRICULAR PEPTIDE) (CONTAINS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-NOV-1988 (Rel. 09, Created)
1-NOV-1988 (Rel. 09, Last sequence update)
15-JUL-1999 (Rel. 38, Last anotation update)
GASTRIN-RELEASING PEPTIDE (GRP) (CONTAINS: NEUROMEDIN C (GRP-10.)|.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Amino acid sequences of three bombesin-like peptides from canine intestine extracts.";
J. Biol. Chem. 258:5582-5588(1983).
-i- FUNCTION: GRP STIMULATES GASTRIN RELEASE AS WELL AS OTHER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Canis familiaris (Dog).
Eukaryota, Metazoa, Chordata, Craniata; Vertebrata, Euteleostomi,
Mammalia, Eutheria, Carnivora, Fissipedia, Canidae, Canis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -!- SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
                                                                                                                                                                                                .,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 31; DB 1; Length 27;
Pred. No. 3.5;
1; Mismatches 1; Indels
                                                                                                                                Length 25
                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDIINE=83213518; Pubmed=6853532;
Reeve J.R. Jr., Walsh J.H., Chew P., Clark B., Hawke D.,
Shively J.E.;
AMIDATION.
B735F911B89007F8 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AMIDATION.
9D9317261B7C7D65 CRC64;
                                                                                                                                1;
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;; 0

PIR;

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RR SEQUENCE.

RA MCDORAIG T.J., JOENTWALL H., Ghatei M., Bloom S.R., Mutt V.;

RA MCDORAIG T.J., JOENTWALL H., Ghatei M., Bloom S.R., Mutt V.;

RT MCDORAIG T.J., JOENTWALL H., Ghatei M., Bloom S.R., Mutt V.;

RT SCHOURCE to an avian gastric (proventricular) peptide having strange to the periode bombesin and alytesin.";

RT Schoult 122:45-48(1980).

RE EBS Lett. 122:45-48(1980).

RN MCDLIKE-90122926; PubMed-2297533;

RN MCDLIKE-90122926; PubMed-2297533;

RN MCDLIKE-90122926; PubMed-2297533;

RN MCDLIKE-9012926; PUBMESINA HELEASE AS WELL AS OTHER GASTROINTESTINAL HORMONE.

C. -1- FUNCTION: GRP STIMULATES GASTRIN RELEASE AS WELL AS OTHER GASTROINTESTINAL HORMONE.

C. -1- SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN FEAM: PRANIX.

DR PREADER STOOM STO
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Search completed: October 25, 2001, 11:28:29 Job time: 477 sec

3 WXVGHI 8 | |||||| 21 WAVGHL 26

QY Db

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GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
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- protein search, using sw model OM protein

October 25, 2001, 11:25:21; Search time 76.25 Seconds (without alignments) 7.992 Million cell updates/sec Run on:

US-09-630-333-6 40 Perfect score: Title:

1 XQWXVGHI 8 Sequence: BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

219241 seqs, 76174552 residues Searched:

219241 al number of hits satisfying chosen parameters:

seq length: 0 seq length: 2000000000 Minimum DB Maximum DB

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

PIR_68:* Database:

pirl:* pir2:* pir3:* pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

	Description	bombesin - fire-be	bombesin precursor	bombesin precursor	litorin I - Austra	bombesin-like pept	ranatensin precurs	hypothetical prote	hypothetical prote		leucine transport	hypothetical prote	NifS-related amino	nifs-related amino	cytochrome-c oxida	hypothetical prote	hypothetical prote	u	litorin 2-Glu - Au	neuromedin C - lau	neuromedin C - bov	gastrin-releasing	gastrin-releasing	gastrin-releasing	gastrin-releasing	hypothetical prote	qastrin-releasing	gastrin-releasing	qastrin-releasing	gastrin-releasing
SUMMARIES	ID	BSTD	BSTDY	A39261	S07204	A60409	B28945	S32963	T48787	A47201	QRECLH	н86012	F86576	G72047	A55582	C96831	T00050	T42627	S07205	PQ0177	A60647	S06263	RHPGA	RHGPGA	RHCHA	T19436	147010	A26182	A40922	B26182
	DB	٦	Н	7	7	7	7	7	7	7	Н	~	7	7	H	7	7	7	~	7	~	7	-	-4	~	~	7	~	7	н
	Length	14	107	119	6	13	82	232	256	120	308	308	406	406	551	920	1006	1147	6	10	10	25	27	27	27	91	134	138	147	148
% Query	'	90.0	90.0	0.06	85.0	85.0	85.0	85.0	85.0	82.5	82.5	82.5	80.0	80.0	80.0	80.0	80.0	80.0	77.5	77.5	77.5	77.5	77.5	77.5	77.5	٠		77.5	٠	77.5
	Score	36	36	36	34	34	34	34	34	33	33	33	32	32	32	32	32	32	31	31	31	31	31	31	31	31	31	31	31	31
Result	NO.	1	7	m	4	S	9	7	Φ	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	56	27	28	29

gastrin oleason transc. Tion au.	hypother hal procentypother real prote	glutamate 5-kinase hypothetical prote	carboxypeptidB	cytochromerc oxida	cytochi more exida extochiomere i ida	eytochrome c exida	alphat, arabinotur cytochromete oxida	cytochrome-c oxid	cytochrome-c oxid
A42437 S39702	S75087 A05212	G83074 E85035	A41204	D83128 C83452	E83450 F82200	G83414	G72395 S49345	839988	S49495
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155 276	279 350	372 375	423	475	475	480	484	539	539
77.5	77.5	77.5		77.5			77.5		77.5
31 31	31 31	31 31	31	31 31	31 31	31	31	31	31
30 31	3 3 3 3	34 35	36	38 38	39 40	41	4 4 2 8	44	45

ALIGNMENTS

RESULT 1 BSTD BSTD C;Species: Bombina bombina (fire-bellied toad) C;Species: Bombina bombina (fire-bellied toad) C;Accession: A01564	R; Anastasi, A.; Erspamer, V.; Bucci, M. Arch. Biochem. Biophys. 148, 443-446, 1972 A; Title: Isolation and amino acid sequences of alytesin and bombesie to A; Reference number: A01564; MUID:72163516 A; Accession: A01564	A; Molecule type: protein A; Residues: 1-14 <ana> C; Superfamily: gastrin-releasing peptide C; Keywords: amidated carboxyl end; cutaneous gland; hormone; neur i; prid F; 1/Modified site: pyrrolidone carboxylic acid (Gln) #status exper ment. F; 14/Modified site: amidated carboxyl end (Met) #status experiment.</ana>
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11 - 1998

aps Length 14; 1; Indels DB 1; 0.27; 1; Mismatches Score 36; Pred. No. (90.08; 71.48;

Query Match Best Local Similarity 71.4-

δy g RESULT

Dombesin precursor - yellow-bellied toad
C;Species: Bombina variegata (yellow-bellied toad)
C;Species: Bombina variegata (yellow-bellied toad)
C;Species: 31-Dec-1991 #sequence_revision 01-Dec-2000 #text_change 0c-2000
C;Accession: S09095; B01564; A01564
R;Richter, K; Egger, R;Kreil, G
FEBS Lett. 262, 333-355, 1990
A;Title: Molecular cloning of a cDMA encoding the bombesin provious number: S09095; MUID:90242964
A;Reference number: S09095; MUID:90242964
A;Residues: 1-107 <RIC>
R;Anastasi, A; Erspamer, V; Bucci, M.
Arch. Biochem. Biophys: 148, 443-446, 1972
A;Title: Isolation and amino acid sequences of alytesin and bombo two cursis.
A;Reference number: A01564; MUID:72163316 A; Accession: B01564

TWO officers

ın skir.

A; Molecule type: protein
A; Residues: 42-55 cANN>
C; Superfamily: ranatensin
C; Keywords: amidated carboxyl end; cutaneous gland; hormone; neu.
F;1-24/Domain: signal sequence #status predicted <SIG>
F;25-41/Domain: amino-terminal propeptide #status predicted <PKU

, ide: 1,1

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bombesin precursor - Bombina orientalis

Query Match Best Local Similarity ... 5; Conserv?

1| |||: 48 QWAVGHL 54

g

2 QWXVGHI 8

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Species: Bombina orientalis

A; Status: preliminary

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A;Cross-references: GB:M21552; GB:J03948; NID:g213693; PIDN:AAA49533.1, PID:g2139; C;Superfamily: ranatensin
C;Keywords: neuropeptide
                                                                                           C. Accession: A60409
R. Simmaco, M.; Severini, C.; De Biase, D.; Barra, D.; Bossa, F.; Roberts, ...
Peptides 11, 299-304, 1990
A;Title: Six novel tachykinin- and bombesin-related peptides from the skin of the A;Reference number: A60409; MUID:90287814
A;Recession: A60409
A;Roccoule type: protein
A;Roclocule type: protein
A;Roslocule type: protein
C;Superfamily: unassigned animal peptides
C;Superfamily: unassigned animal peptides
C;Reywords: amidated carboxyl end; hormone; neuropeptide; pyrnglutum: ...
F;1/Modified site: pyrrolidone carboxyl end (Met) #status experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C;Accession: B28945
R;Krane, I.M.; Naylor, S.L.; Helin-Davis, D.; Chin, W.W.; Spindel, E.R.
R;Krane, I.M.; Naylor, S.L.; Helin-Davis, D.; Chin, W.W.; Spindel, E.R.
A; Biol. Chem. 263, 13317-13323, 1988
A;Title: Molecular cloning of CDRAs encoding the human bombesin-like peptide in A;Reference number: A92667; MUID:88330837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           I-tht arm
bombesin-like peptide L - frog (Pseudophryne guentheri)
C;Species: Pseudophryne guentheri
C;Date: 30-Jan_1993 #sequence_revision 30-Jan-1993 #text_change 18-Aug-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               hypothetical protein YBR261c - yeast (Saccharomyces cerevisiae)
N;Alternate names: hypothetical protein YBR1729
C;Species: Saccharomyces cerevisiae
C;Species: 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_change 28-Jul-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C;Species: Rana pipiens (northern leopard frog)
C;Date: 30-Jun-1989 #sequence_revision 30-Jun-1989 #text_change 24-Sep-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Cross-references: EMBL:X70529; NID:g1907246; FIDN:CAA49926.1; Pill 12.4.5.14
R;Adjet, M.: Baclet, M.C.; Barthe, C.; Biteau, N.; Crouzet, M.; Dollin... F
submitted to the Protein Sequence Database, August 1994
A;Reference number: $45940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
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A;Title: The complete sequence of a 19,482 bp segment located on the A;Reference number: S29348; MUID:93220397
A;Accession: S32963
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Pred. No. 0.63;
0; Mismatches
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Pred. No. 4;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ranatensin precursor - northern leopard frog
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ilarity 83.3%;
Conservative
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Matches 5; Conserv
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A; Residues: 1-232 <DOI>
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Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Accession: B28945
A; Molecule type: mRNA
A; Residues: 1-82 <KRA>
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6 QWAVGH 11
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RTSpindel, B.R.; Gibson, B.W.; Reeve Jr., J.R.; Kelly, M.

RTSpindel, B.R.; Gibson, B.W.; Reeve Jr., J.R.; Kelly, M.

A;Title: Cloning of CDNAs encoding amphiblan bombesin: evidence for the relationship bet A;Reference number: A39261; MUID:91088602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Knastasi, A.; Erspamer, V.; Endean, R. Experientia 31, 510-511, 1975
A;Title: Aminoacid composition and sequence of litorin, a bombesin-like nonapeptide from A;Reference number: S07204; MUID:75187011
         F;42-55/Product: bombesin #status experimental <MAT>
F;56-107/Domain: carboxyl-terminal propebtide #status predicted <CPT>
F;55-107/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status experimen F;55/Modified site: midated carboxyl end (Met) (amide in mature form from following gly
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Apate: 12-Feb-1993 #sequence_revision 12-Mar-1993 #text_change 18-Aug-2000
cession: S07204
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C: Superfamily: gastrin-releasing peptide
C: Keywords: amidated carboxyl end; neuropeptide; pyroglutamic acid
C: Keywords: amidated carboxyl end; neuropeptide site: pyrrolidone carboxylic acid (Gln) #status experimental
F: 9/Modified site: amidated carboxyl end (Met) #status experimental
                                                                                                                                                                                                                                                               Gaps
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A;Residues: 1-119 <SPI>
A;Cross-references: GB:M55255; NID:g211016; PIDN:AAA48551.1; PID:g211017
C;Superfamily: ranatensin
C;Keywords: neuropeptide
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Pred. No. 2.3;
                                                                                                                                                                                                 Length 107
                                                                                                                                                                                                                                                               1; Indels
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83.3%; Pred. No. 2.2e+05;
tive 0; Mismatches 1;
                                                                                                                                                                                                    DB 1;
                                                                                                                                                                                                 90.0%; Score 36; DB 1 ilarity 71.4%; Pred. No. 2.1; Conservative 1; Mismatches
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90.0%; 71.4%;

Best_Local Similarity 71.4 Matches 5; Conservative

Query Match

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Conservative

Local Similarity nes 5; Conserv

Query Match Best Loc Matches

II III QWAVGH 2 QWXVGH

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RESULT A60409

A; Molecule type: protein

A; Accession: S07204

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A; Cross-references: GB.AE000421; GB:U00096; NID:q1789854; PIDN:AA. :482.1; PID:q1 :3 A; Experimental source: strain K-12, substrain MG1655 R; Nazos, P.M.; Antonucci, T.K.; Landick, R.; Oxender, D.L. J. Bacteriol. 166, 565-573, 1986 A; Title: Cloning and characterization of livH, the structural generation of companie A; Reference number: A24548; MUID:86195847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C;Superfamily: leucine transport protein livH
C;Reywords: branched-chain amino acid transport; leucine transport; transmembran.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Cross-references: EMBL:U00039; NID:9466582; PIDN:AAb18432.1; PID:1446594
R; Blattner, F.R.; Plunkett III, G.; Bloch, C.A.; Perna, N.T.; Burland, V.; Kilt,
A.; Rose, D.J.; Mau, B.; Shao, Y.
Science 277, 1453-1462, 1997
A; Title: The complete genome sequence of Escherichia coli K-12.
A; Reference number: A64720; MUID:97426617
A; Reference number: A64720; MUID:97426617
A; Status: nucleic acid sequence not shown; translation not shown
A; Residues: 1-308 < BAAT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Residues: 1-252,'G', 254-287,'P',289-308 <ADA>
A; Cross-references: GB:J05516; NID:9146630; PIDN:AAA83884.1; PID:9146633
C; Comment: This protein is a component of the leucine-specific transport system, branched-chain amino acids in E. coal:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Dypothetical protein livH [imported] - Escherichia coli (strain 0157 H7) C; Species: Escherichia coli (c; Species: Escherichia coli (c; Species: Escherichia coli (c; Species: Escherichia coli (c; Species: Ber-2001 #text_change r-2001 C; Accession: H86012 Escherichia (b. 1. Grotbeck, E.J.; Burland, V.; Mau, B.; Glasner, J.L.; Rose, Iller, L.; Grotbeck, E.J.; Davis, N.W.; Lim, A.; Dimalanta, E.; Perlamousis, Nature 409, 529-533, 2001 A; Title: Genome sequence of enterohemorrhagic Escherichia coli (157-H/) A; Reference number: A85480; MUID:21074935; PMID:11206551
                                                                                                                                                                                          leucine transport protein livH - Escherichia coli
C;Species: Escherichia coli
C;Species: Bachar-1988 #sequence_revision 31-Oct-1997 #text_change 16 Intl 1900-
C;Accession: S47676; D65142; A24548; D37074
R;Plunkett, G.
Submitted to the EMBL Data Library, March 1994
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Pred. No. 24;
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                                                                                                                                                                                                                                                                                                                                                                                                                                A; Reference number: S47666
A; Accession: S47676
A; Molecule type: DNA
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C; Superfamily: leucine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DNA
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           47 OWAIGH 52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Accession: D37074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 QWXVGH 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Molecule type:
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           a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         precise: Neurospora crassa
Date: 05-May-2000 #sequence_revision 05-May-2000 #text_change 28-Jul-2000
C;Accession: T48787
R;Schulte, U.; Apropriation 05-May-2000 #text_change 28-Jul-2000
C;Accession: T48787
R;Schulte (U.; Apropriation Sequence Database, April 2000
A;Reference number: 224541
A;Reference number: 224541
A;Reference number: 224541
A;Residues: preliminary
A;Molecule type: DNA
A;Residues: 1-256 AsCH>
A;Coss-references: EMBL:AL353820; GSPDB:GN00112; NCSP:13E11.350
A;Cross-references: EMBL:AL353820; GSPDB:GN0112; NCSP:13E11.350
A;Genetics:
A;Ge
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C; Species: Xenopus laevis (African clawed frog)
C; Species: Xenopus laevis (African clawed frog)
C; Date: 21.56p-1993 #sequence_revision 18.Nov-1994 #text_change 04.5ep-1998
C; Accession: A47201
R; Wechselberger, C; Kreil, G; Richter, K.
Proc. Natl. Acad. Sci. U.S.A. 89, 9819-9822, 1992
A;Title: Isolation and sequence of a cDNA encoding the precursor of a bombesinlike pepti A; Accession: A47201
A; Status: preliminary
                                                                       A;Cross-references: EMBL:236130; NID:9536688; PIDN:CAA85224.1; PID:9536689; MIPS:YBR261d
C;Genetics:
A;Map position: 2R
C;Superfamily: Neurospora crassa hypothetical protein 13E11.350
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A; Molecule type: nucleic acid
A; Moste: sequence inconsistent with the nucleotide translation
A; Note: sequence extracted from NCBI backbone (NCBIN:115857, NCBIP:115858)
C; Superfamily: ranatensin
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                                                                                                                                                                                                                                                                                                     Score 34; DB 2; Length 232;
Pred. No. 12;
1; Mismatches 1; Indels
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Pred. No. 13;
1; Mismatches 1; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  [pothetical protein 13E11.350 [imported] - Neurospora crassa
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Best Local Similarity 71.4%;
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                         Query Match 85.0%;
Best Local Similarity 71.4%;
Matches 5; Conservative
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Best Local Similarity
Matches 4; Conserv
A; Molecule type: DNA
A; Residues: 1-232 <AIG>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           139 QWCVGHL 145
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hypothetical protein F18B13.7 [imported] - Arabidopsis thaliana (Species: Arabidopsis thaliana (mouse-ear cress)
C.Species: Arabidopsis thaliana (mouse-ear cress)
C.Spacession: C96B31
R;Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kuul, S., While, O.; Alon ansen, N.F.; Hughes, B.; Huizar, L.
Nature 408, 816-820, 2000
A.Suthors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S., Khaykin, E.; Kim, C.A.; Li, Y.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, R.; Mirzia Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.
A.Status: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.H.; Sun, H.; Tallo A; Reference number: A86141; MulD:21016719
A; Reference number: A86141; MulD:21016719
A; Reterence number: A86141; MulD:21016719
A; Reterence type: DNAA
A; Molecule type: DNAA
                                                                                                                                                                                                                                                                                                                                        cytochrome-c oxidase (EC 1.9.3.1) fixN chain - Azorhizobium caulineduns
NiAlternate names: cb-type cytochrome-c oxidase 45K chain, cytochrome b410, 11431 g
C;Species: Azorhizobium caulinodans
C;Species: Azorhizobium caulinodans
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Sep-199,
C;Accession: A55582; S42229
J. Bacteriol. 176, 2560-2568, 1994
A;Title: Functional analysis of the fixNoQP region of Azorhizobium caulinedins
A;Reference number: A55582; MUID:94222833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A.Status: preliminary: nucleic acid sequence not shown; translation not shown A.Molecule type: DNA
A.Molecule type: DNA
A.Residues: 1-551 cMAN2>
A.Cross-references: EMBL:X74410; NID:9456310; PIDN:CAA52429.1; PLU.....6311
A.Note: the nucleotide sequence was submitted to the EMBL Data Librar, July 194; C.Superfamily: Rhizobiuum cytochrome-c oxidase fixm Chain; cytochrome... oxidase c.C.Keywords: chromoprotein; copper; electron transfer; heme; iron; mannesium; menn. F;73-502/Domain: cytochrome-c oxidase chain I homology CCOl> iron; mannesium; menn. F;73-502/Domain: cytochrome-c oxidase chain I stands predicted fixmus site: heme iron (His) #status predicted fixture predicted F;419/Binding site: heme iron (His) (axial ligand) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Cross-references: GB:X74410; NID:g456310; PIDN:CAA52429.1; PID:g456311 R;Mandon, K.; Kaminski, P.A.; Mougel, C.; Desnoues, N.; Dreyfus R Im. I. Fams Microbiol. Lett. 114, 185-190, 1993 A;Ittle: Role of the fixGHI region of Azorhizobium caulinodans in Invertiving and A;Reference number: S42229; MUID:94109675
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C;Genetics:
A;Gene: F18B13.7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A:Status: preliminary; nucleic acid sequence not shown A:Molecule type: DNA
A:Residues: 1-551 <MAN1>
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Best Local Similarity 42.9%;
Matches 3; Conservative
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A; Residues: 1-920 <STO>
                                                                                                                                               370 RWNVGHV 376
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414 EWGIGHV 420
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                                                                   2 QWXVGHI
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                                 A Molecule type: DNA
A;Residues: 1-308 <STO>
A;Cross-references: GB:AE005174; NID:g12518111; PIDN:AAG58564.1; GSPDB:GN00145; UWGP:248
A;Experimental source: strain 0157:H7, substrain EDL933
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nife-related aminotransferase [imported] - Chlamydophila pneumoniae (strain J138) C.Species: Chlamydophila pneumoniae, Chlamydophila pneumoniae, Chlamydophila pneumoniae, Chlamydia pneumoniae (c.Species: CO-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 23-Mar-2001 C.Accession: F86576 R.Shiral, M.; Hirakawa, H.; Kimoto, M.; Tabuchi, M.; Kishi, F.; Ouchi, K.; Shiba, T.; Is Nucleic Acids Res. 28, 2311-2314, 2000 A.Title: Comparison of Whole genome sequences of chlamydia pneumoniae J138. A.Accession: F86576 A.Accession: F86576 A.Status: preliminary A.Molecule type: DNA A.Residues: 1-406 <STO>A.Status: Preliminary A.Residues: 1-406 <STO>A.Status: Preliminary A.Residues: 1-406 <STO>A.Status: Despectmental source: strain J138
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C:Species: Chlamydophila pneumoniae, Chlamydia pneumoniae
C:Date: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 05-May-2000
C:Accession: G72047
R:Kalman, S.; Mitchell, W.; Marathe, R.; Lammel, C.; Fan, J.; Olinger, L.; Grimwood, J.;
R:Kalman, S.; Mitchell, W.; Marathe, R.; Lammel, C.; Fan, J.; Olinger, L.; Grimwood, J.;
R:Kalman, S.; Mitchell, W.; Marathe, R.; Lammel, C.; Fan, J.; Olinger, L.; Grimwood, J.;
R:Kalman, S.; Mitchell, W.; Marathe, R.; Lammel, C.; Fan, J.; Olinger, L.; Grimwood, J.;
R:Kalman, S.; Mitchell, W.; Marathe, R.; Lammel, C.; Fan, J.; Olinger, L.; Grimwood, J.;
R:Kalman, S.; Mitchell, W.; Marathe, R.; Lammel, C.; Fan, J.; Olinger, L.; Grimwood, J.;
R:Kalman, S.; Mitchell, W.; Marathe, R.; Lammel, C.; Fan, J.; Olinger, L.; Grimwood, J.;
R:Kalman, S.; Mitchell, W.; Marathe, R.; Lammel, C.; Fan, J.; Olinger, L.; Grimwood, J.;
R:Kalman, S.; Mitchell, W.; Marathe, R.; Lammel, C.; Fan, J.; Olinger, L.; Grimwood, J.;
R:Kalman, S.; Mitchell, W.; Marathe, R.; Lammel, C.; Fan, J.; Olinger, L.; Grimwood, J.;
R:Kalman, S.; Mitchell, W.; Marathe, R.; Mara
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57.1%; Pred. No. 52;
Live 2; Mismatches
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                                                                                                                                                                                         C'Genetics:
A;Gene: livH
C:Superfamily: leucine transport protein livH
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   80.0%; Score 32;
57.1%; Pred. No.
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C;Genetics:
A;Gene: yfno_1
C;Superfamily: nifS protein
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Best Local Similarity 83.3%;
Matches 5; Conservative
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*Best Local Similarity 57.1
Matches 4; Conservative
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Best Local Similarity
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A; Status: preliminary
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Khaykin, E.; Kim, Maiti, R.; Morzia

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A,Map position: 1
C;Superfamily: coatomer complex beta' chain; WD repeat homology
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Length 920;		Indels
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80.0%; Score 32; DB 2; 1	Pred. No. 1.2e+	1; Mismatches
80.08;	66.78;	ative
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Search completed: October 25, 2001, 11:25:21 Job time: 334 sec

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Sequence 11, Appl
Sequence 9, Appli
Patent No. 5217955
Patent No. 5217955
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Sequence 2, Appli
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GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
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Maximum Match 100%
Listing first 45 summaries
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ALIGNMEN

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Sequence 11, Application US/08168390
Patent No. 5620955
GENERAL INFORMATION:
APPLICANT: Knight, Martha
APPLICANT: Takahashi, Kazayuki
APPLICANT: Chandrasekhar, Bhaskar
TITLE OF INVENTION: Bombesin/Gastrin Releasing Peptide Antagonists
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residue comprises an ethyl ester."
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                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/168,390
FILING DATE: Herewith
                                                                                                                                                                                                      3: Sterne, Kessler, Goldstein & 1100 New York Avenue, Suite 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATTORNEY AGENT INFORMATION:
NAME: Goldstein, Jorge A.
REGISTRATHON NUMBER: 29,021
REFERENCE/DOORET NUMBER: 0971.0040001
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 371-2540
TELEFAX: 248636 SSK
INFORMATION FOR SEQ ID NO: 11:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY: Modified-site LOCATION: 8
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                                                                                                                                                             NUMBER OF SEQUENCES: 16
CORRESPONDENCE ADDRESS:
ADDRESSEE: Sterne, Kes
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US-08-168-390-11
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APPLICANT: aBOGDEN, ARTHUR E.; MOREAU, JACQUES-PIERRE
TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG
OF BOMBESIN, GRP, LITORIN OR NEUROMEDIN
NUMBER OF SEQUENCES: 42

CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/520,225
FILING DATE: 09-MAY-1990
PRIOR ARPLICATION NUMBER: 440,039
FILING DATE: 21-NOV-1989
FILING DATE: 15-SEP-1989
FILING DATE: 15-SEP-1989
                                                                                                                                                                                                                                                                          0;
                                                                                        The sequence contains at position 1 a pyroglutamate, rather than and has an methylester C-terminus (i.e. rather than a carboxyl C-terminus (i.e.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: aBOGDEN, ARTHUR E.; MOREAU, JACQUES-PIERRE
TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOS
OF BOMBESIN, GRP, LITORIN OR NEUROMEDIN
NUMBER OF SEQUENCES: 42
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/520,225
                                                                                                                                                                                                                                Query Match 90.0%; Score 36; DB 2; Length 8; Best Local Similarity 71.4%; Pred. No. 1.5e+05; Matches 5; Conservative 1; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                90.0%; Score 36; DB 6; Length 8; 71.4%; Pred. No. 1.5e+05; ive 1; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         90.0%; Score 36; DB 6; I
llarity 71.4%; Pred. No. 1.5e+05;
Conservative 1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE: 09-MAY-1990
PRIOR APPLICATION DATE: APPLICATION DATE: 440,039
FILING DATE: 21-NOV-1989
APPLICATION NUMBER: 408 125
FILING DATE: 15-SEP-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5; Conservative
                                                                                 CTHER INFORMATION:
CTHER INFORMATION:
CTHER INFORMATION:
CTHER INFORMATION:
US-08-337-127-9
          TYPE: amino acid STRANDEDNESS:
                                                  TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best_Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                     1| |||:
2 QWAVGHL 8
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2 QWAVGHL 8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; SEQ ID NO:32:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 8
                                                                 FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; SEQ ID NO:34:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 3
5217955-32
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5217955-34
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                    90.0%; Score 36; DB 1; Length 8; 71.4%; Pred. No. 1.5e+05; ive 1; Mismatches 1; Indels
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COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: IBM PS/2 Model 502 or 558X
OPERATING SYSTEM: IBM P.C. DOS (Version 3.30)
SOFTWARE: Wordferfect (Version 5.0)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/337,127
                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
APPLICANT: Coy, David H.
APPLICANT: Moreau, Jacques-Pierre
APPLICANT: Kin, Sun H.
TITLE OF INVENTION: OCTAPEFIDE BOMBESIN
NUMBER OF SEQUENCES: 11
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOKNEL CLARK, PAUL T.
NAME: Clark, Paul T.
REGISTRATION NUMBER: 30,162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/779,039
FULING DATE: 10/18/91
APPLICATION NUMBER: 07/502,438
FILING DATE: 03/30/90
APPLICATION NUMBER: 07/397,169
FILING DATE: 08/31/89
APPLICATION NUMBER: 07/376,555
FILING DATE: 08/31/89
APPLICATION NUMBER: 07/376,555
FILING DATE: 03/02/89
APPLICATION NUMBER: 07/317,941
FILING DATE: 03/02/89
APPLICATION NUMBER: 07/217,941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               07/257,998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: 07/248,771 FILING DATE: 09/23/88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               07/207,759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: 07/173,311 FILING DATE: 03/25/88 APPLICATION NUMBER: 07/100,571 FILING DATE: 09/24/87 ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     07/204,171
                                                                                                                                                                                                                                               Sequence 9, Application US/08337127
Patent No. 5877277
                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE: Fish & Richardson STREET: 225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE/DOCKET NUMBER: 00
TELECOMMUNICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (617) 542-5070
(617) 542-8906
Query Match
Best Local Similarity 71.4°,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEX: 200154
INFORMATION FOR SEQ ID NO:
ESEQUENCE CHARACTERISTICS:
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FILING DATE: 06/16/8
APPLICATION NUMBER:
FILING DATE: 06/08/8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE: 12/09/
APPLICATION NUMBER:
FILING DATE: 10/14/
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2 QWAVGHL 8
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                                                                                                                                                                                                         RESULT 2
US-08-337-127-9
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1; Indels
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US-07-619-747B-4
Sequence 4, Application US/07619747B
Sequence 10. 5244883
Sequence 10. 5244883
Sequence 10. 5244883
SENERAL INFORMATION:
APPLICANT: Cai, Ren Zhi
APPLICANT: Cai, Ren Zhi
APPLICANT: Cai, Ren Zhi
APPLICANT: Cai, Ren Zhi
APPLICANT: Schally, Andrew V.,
TITLE OF INVENTION: Antagonists
NUMBER OF SEQUENCES: 40
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Andrew V. Schally
STREET: 5025 Kawanne Avenue
APPLICANT: Schally, Andrew V.,
TITLE OF INVENTION: No. 5244883apeptide Bombesin
TITLE OF INVENTION: Antagonists
HUMBER OF SEQUENCES: 40
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          isostere of named aminoacid
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Position 8 is a reduced
                                                                                                                                                                                                            COMPOTER READBLE FORM:
MEDIUM TYPE: 360K Diskette
COMPUTER: IBM PC
OPPERATING SYSTEM: DOS 5.0
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE/DOCKET NUMBER: SHAL3.0-011 TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                FILING DATE: 19901129
CLASSIFICATION 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: No. 5244883e
FILING DATE:
ATTORNEY APPLICATION NUMBER:
FILING DATE:
ATTORNEY AGENTY INFORMATION:
NAME: Behr, Omri M.
REGISTRATION NUMBER: 22,940
                                                                                              ADDRESSEE: Dr. Andrew V. Schally
STREET: 5025 Kawanne Avenue
STTY: Metairie
STATE: Louisiana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    90.0%;
71.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEPHONE: (908)494-5240
TELEFAX: 1-908-404-0428
TELEX: 511642 BEPATEDIN
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ouery Match
Best Local Similarity 71.4.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ) OTHER INFORMATION:
) OTHER INFORMATION:
US-07-619-747B-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CITY: Metairie
STATE: Louisiana
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AMINO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2 QWXVGHI 8
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ZIP: 70002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ZIP: 70002
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                                                                                                                                                Sequence 1, Application US/07619747B
Patent No. 5244883
GENERAL INFORMATION:
APPLICANT: Cai, Ren Zhi
APPLICANT: Schally, Andrew V.,
TITLE OF INVENTION: No. 5244883apeptide Bombesin
TITLE OF INVENTION: Antagonists
NUMBER OF SEQUENCES: 40
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Andrew V. Schally
STREET: 5025 Kawanne Avenue
CITY: Metailie
STATE: Louisiana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Position 8 is a reduced isostere of named aminoacid
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
CLASSIFICATION 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: No. 5244883e
FILING DATE: N/A
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Sequence 2, Application US/076197478 ; Sequence 1, Application US/076197478 ; Patent No. 2544883 ; GENERAL INFORMATION: APPLICANT: Cai, Ren Zhi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FILING DATE:
ATORNEY/AGENT INFORMATION:
NAME: Behr, Onti M.
REGISTRATION NUMBER: 22,940
REFERENCE/DOCKET NUMBER: SHAL:
TELECOMMUNICATION INFORMATION:
TELECHONE: (908)494-5240
TELEFAX: 1-908-494-5428
                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: 360K Diskette
COMPUTER: IBM PC
OPERATING SYSTEM: DOS 5.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEFAX: 1-908-494-0428
TELEX: 511642 BEPATEDIN
INFORMATION FOR SEQ ID NO: 3
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRANDEDNESS: Unknown
TOPOLOGY: Unknown
MOLECULE TYPE: peptide
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OTHER INFORMATION:
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2 QWAVGHL 8
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                                            2 QWXVGHI 8
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                                                                                                                  RESULT 5
US-07-619-747B-1
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ATTORNEY/AGENT INFORMATION:
NAME: Behr, Omri M.
REGISTRATION NUMBER: 22,940
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REGISTRATION NUMBER: 22,940
REFERENCE/DOCKET NUMBER: SHA
TELECOMMUNICATION INFORMATION:
TELEPHONE: (908)494-5240
TELEFAX: 1-908-494-0428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM: MEDIUM TYPE: 360K Diskette
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Best Local Similarity 71.4%;
Matches 5; Conservative 1
                                                                                                                                                                                                                                                      TELEPHONE: (908)494-5240
TELERAX: 1-908-494-0428
TELEX: 151642 BEPATEDIN
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: AMINO
STRANDEDNESS: Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TOPOLOGY: Unknown
MOLECULE TYPE: peptide
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OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
                FILING DATE: N/A APPLICATION NUMBER:
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                                                                            FILING DATE:
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APPLICANT: Cai. Ren Zhi
APPLICANT: Cai. Ren Zhi
APPLICANT: Cai. Ren Zhally
Andraw V.,
TITLE OF INVENTION: No. 5244883apeptide Bombesin
TITLE OF INVENTION: Antagonists
NUMBER OF SEQUENCES: 40
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Andraw V. Schally
STREET: 5025 Kawanne Avenue
CITY: Metairie
STRIE: Louisiana
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Position 1 is 5F-D-Trp
Position 8 is a reduced
isostere of named aminoacid
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Pred. No. 1.5e+05;
1; Mismatches 1;
                                                                                                            CURRENT APPLICATION DATA:

SOFTWARE: WP 5.1

CURRENT APPLICATION DATA:

PELLING DATE: 19901129

CLASSIFICATION: 514

PRIOR APPLICATION: 514

PRIOR APPLICATION DATA:

APPLICATION DATA:

APPLICATION NUMBER: No. 5244883e

FILING DATE: NAA

APPLICATION NUMBER: STATION STATION:

FILING DATE: THOORMATION:

FILING DATE: STATION NUMBER: 22,940

FILING DATE: STATION NUMBER: 32408

FILING DATA: STATION NUMBER: STATION:

FILING DATA: STATION STATION:

FILING DATA: STATION STATION:

FILING DATA: STATION STATION:

FILING DATE: STATION STAT
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OPERATING STAIL...
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
TT.ING DATE: 19901129
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CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: No. 5244883e
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          equence 5, Application US/07619747B
tent No. 5244883
COMPUTER READABLE FORM:
MEDIUM TYPE: 360k Diskette
COMPUTER: IBM PC
OPERATING SYSTEM: DOS 5.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDIUM TYPE: 360K Diskette
COMPUTER: IBM PC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 90.0%;
71.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity 71.4*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRANDEDNESS: Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ZIP: 70002
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTHER INFORMATION:
CTHER INFORMATION:
CTHER INFORMATION:
US-07-619-747B-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AMINO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2 QWXVGHI 8
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US-07-619-747B-5
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Score 36; DB 1; Length 9;
Pred. No. 1.5e+05;
1; Mismatches 1; Indels
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APPLICANT: Cai, Ren Zhi
APPLICANT: Cai, Ren Zhi
APPLICANT: Cai, Ren Zhi
ITLE CAILLEANT: Schally, Andrew V.,
TITLE OF INVENTION: Antagonists
NUMBER OF SEQUENCES: 40
CORRESPONDENCES: 40
CORRESPONDENCES: Dr. Andrew V. Schally
STREET: 5025 Kawanne Avenue
CITY: Metairie
STREET: Louisiana
COUNTRY: USA
ZIP: 70002
                                                                                                                                                                                                                                                                                                                                  Position 1 is D-Tpi
Position 8 is a reduced
isostere of named aminoacid
REFERENCE/DOCKET NUMBER: SHAL3.0-011
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER: IBM PC
OPERATING SYSTEM: DOS 5.0
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
APPLICATION NUMBER: NO. 5244883e
FILING DATE: N/A
APPLICATION NUMBER:
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90.0%; Score 36; DB 1; Length 9; 71.4%; Pred. No. 1.5e+05; ive 1; Mismatches 1; Indels
                                                                                               Score 36; DB 1; Length 9. Pred. No. 1.5e+05; 1; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                Sequence 12, Application US/07619747B
Petent No. 5544883
CENERAL INFORMATION:
APPLICANT: Cai, Ren Zhi
APPLICANT: Schally, Andrew V.,
TITLE OF INVENTION: No. 5544883apeptide Bombesin
TITLE OF INVENTION: Antagonists
NUMBER OF SEQUENCES: 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTHER INFORMATION: Position 1 is D-Tpi
CTHER INFORMATION: Position 8 is a reduced
CTHER INFORMATION: isostere of named aminoacid
US-07-619-747B-12
    ; OTHER INFORMATION: isostere of named aminoacid US-07-619-7478-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COUNTRY: LOUISIANIA
COUNTRY: LOUISIANIA
ZIP: 70002
COMPUTER READABLE FORM:
MEDIUM TYPE: 360K Diskette
COMPUTER: IBM PC
COMPUTER: IBM PC
COMPUTER: IBM PC
COMPUTER: WP 5.1
CURRENT APPLICATION DATA:
PRILING DATE: 19901129
CLASSIFICATION UNMBER: US/07/619,747B
FILING DATE: 19901129
CLASSIFICATION UNMBER: NO. 5244883e
FILING DATE: NA
APPLICATION NUMBER:
FILING DATE: ATTORNEY ACENT INFORMATION:
NAME: Behr, Omri M.
BEGISTRATION NUBBER: 22,940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE/DOCKET NUMBER: SHAL3.0-011
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3: Dr. Andrew V. Schally 5025 Kawanne Avenue
                                                                                               90.08;
71.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEPHONE: (908)494-5240
TELEFAX: 1-908-494-0428
TELER: 511642 BEPATEDIN
INFORMATION FOR SEQ ID NO: 12
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH: TYPE: AMINO STRANDEDNESS: Unknown TYPOWN UNKNOWN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 71.4°
.....hes 5; Conservative
                                                                                               Query Match 90.0
Best Local Similarity 71.4
Matches 5; Conservative
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MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Andre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STATE: Louisiana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CITY: Metairie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     || ||||
2 QWAVGHL 8
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2 QWAVGHL 8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                             WESULT 10
US-07-619-747B-10
US-07-619-747B-10
Sequence 10, Application US/07619747B
Patent No. 5244883
GENERAL INFORMATION:
APPLICANT: Cal, Ren Zhl
APPLICANT: Cal, Ren Zhl
TITLE OF INVENTION: No. 5244883apeptide Bombesin
TITLE OF INVENTION: Andrew V.,
UNMBER OF SCHAILY. Andrew V.,
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Andrew V. Schally
STARE: Louis Kawanne Avenue
CITY: Metalile
STATE: Louisiana
COMPUTER TO
                                                                                                                                                                                                            Position 1 is NH2CO-Trp
Position 8 is a reduced
isostere of named aminoacid
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OTHER INFORMATION: Position 8 is a reduced
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READBLE FORM:
MEDIUM TYPE: 360K Diskette
COMPUTER: IBM PC
OPERATING SYSTEM: DOS 5.0
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
CLASSIFICATION DATA:
APPLICATION NUMBER: NO. 5244883e
FILING DATE: NA
APPLICATION NUMBER: SAPLICATION NUMBER: STILING DATE:
ATTORNEX/AGENT INFORMATION:
NAME: Behr, Omri M.
REGISTRATION NUMBER: 22,940
REFERENCE/DOCKET NUMBER: SHAL3.0-011
TELECOMMUNICATION INFORMATION:
SEQUINCE CHARACTERISTICS:
TELEX: 511642 BEPATEDIN INFORMATION FOR SEQ ID NO: 9 SEQUENCE CHARACTERISTICS:
                                                               LENGTH: 9
TYPE: AMINO
STRANDEDNESS: Unknown
TOPOLOGY: Unknown
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRANDEDNESS: Unknown
TOPOLOGY: Unknown
MOLECULE TYPE: peptide
                                                                                                                                                                                                         CTHER INFORMATION:
CTHER INFORMATION:
CTHER INFORMATION:
US-07-619-747B-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: AMINO
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Sqbs

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90.0%; Score 36; DB 1; Length 9; 71.4%; Pred. No. 1.5e+05; ive 1; Mismatches 1; Indels
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Patent No. 5244883
GENERAL INFORMATION:
APPLICANT: Cai, Ren Zhi
TITLE OF INVENTION:
TITLE OF INVENTION: No. 5244883apeptide Bombesin
TITLE OF INVENTION: Antagonists
NUMBER OF SEQUENCES: 40
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Andrew V. Schally
STREET: 5025 Kawanne Avenue
STREET: Louisiana
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Position 1 is D-pGlu
Position 8 is a reduced
isostere of named aminoacid
Position 9 is Tp1
                                                                                                                                                                                                      MEDIUM TYPE: 360k Diskette
COMPUTER: IBM PC
OPERATING SYSTEM: DOS 5.0
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: NO. 5244883e
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE/DOCKET NUMBER: SHAL3.0-011
TELECOMMUNICATION INFORMATION:
TELEPHONE: (908)494-5240
TELEFAX: 1-908-494-0428
                                                               ADDRESSEE: Dr. Andrew V. Schally
STREET: 5025 Kawanne Avenue
CITY: Metairie
STATE: Louisiana
FITLE OF INVENTION: Antagonists
                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTORNEY AGENT INFORMATION:
NAME: Behr, Omri M.
REGISTRATION NUMBER: 22,940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEX: 511642 BEPATEDIN
INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity 71.4
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: AMINO STRANDEDNESS: Unknown
                                              CORRESPONDENCE ADDRESS:
                                                                                                                                                                                   COMPUTER READABLE FORM: MEDIUM TYPE: 360K DI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MOLECULE TYPE: peptide
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                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE: N/A APPLICATION NUMBER:
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COTHER INFORMATION:
OTHER INFORMATION:
COTHER INFORMATION:
US-07-619-747B-15
                       NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Unknown
                                                                                                                                               USA
                                                                                                                                         COUNTRY: US.
ZIP: 70002
                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE:
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                                                                 Sequence 14, Application US/07619747B
Patent No. 5244883
GENERAL INFORMATION:
APPLICANT: Cali, Ren Zhi
APPLICANT: Schally, Andrew V.,
TITLE OF INVENTION: No. 5244883apeptide Bombesin
TITLE OF SEQUENCES: 40
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Andrew V. Schally
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Position 1 is Hoa
Position 8 is a reduced
isostere of named aminoacid
Position 9 is Tpi
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Patent No. 5544883
GENERAL INFORMATION: Cai, Ren Zhi
APPLICANT: Cai, Ren Zhi
APPLICANT: Schally, Andrew V.,
TITLE OF INVENTION: No. 5244883apeptide Bombesin
                                                                                                                                                                                                                                                                                                                                                                       COMUTER READABLE FORM:
MEDIUM TYPE: 366K Diskette
COMPUTER: LBM PC
COMPUTER: LBM PC
OPERATING SYSTEM: DOS 5.0
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
CLASSIFICATION 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: NO. 5244883e
FILING DATE: NA
APPLICATION NUMBER: NA
PRIOR DATE: NA
APPLICATION NUMBER: NA
APPLICATION NUMBER: PILING DATE:
                                                                                                                                                                                                                         STREET: 5025 Kawanne Avenue CITY: Metairie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTORNEY/AGENT:
NAME: Behr, Omri M.
REGISTRATION UNDBER: 22,940
REFERENCE/DOCKET UNBER: SHALE
TELECOMMUNICATION INFORMATION:
TELEFONE: 1-908-49-5240
TELEFAX: 1-908-49-028
TELEX: 511642 BEPATEDIN
INFORMATION FOR SEQ ID NO: 14:
SEQUENCE CHARACTERISTICS:
LENGTH: 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 90.0
Best Local Similarity 71.4
Matches 5; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OTHER INFORMATION:
; OTHER INFORMATION:
; OTHER INFORMATION:
US-07-619-747B-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Unknown
                                                                                                                                                                                                                                                                                                                                           USA
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                                                  US-07-619-747B-14
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VESUUT
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Position 8 is a reduced
isostere of named aminoacid
TYPE: AMINO
STRANDEDNESS: Unknown
TOPOLGGY: Unknown
MOLECULE TYPE: peptide
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
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OTHER INFORMATION:
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Best Local Similarity
Matches 5; Conserv
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FILLING DATE:
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Gaps

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GenCore version 4.5
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 protein search, using sw model OM protein

October 25, 2001, 11:22:46; Search time 129.78 Seconds (without alignments) 3.737 Million cell updates/sec Run on:

US-09-630-333-6 40 Perfect score:

1 XQWXVGHI 8 Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

412676 segs, 60623988 residues Searched:

412676 al number of hits satisfying chosen parameters:

seq length: 0 seq length: 2000000000 imum DB Maximum

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database

/SIDSB/gcgdata/geneseq/geneseqp/AA1980.DAT:*
/SIDSB/gcgdata/geneseq/geneseqp/AA1981.DAT:*
/SIDSB/gcgdata/geneseq/geneseqp/AA1981.DAT:*
/SIDSB/gcgdata/geneseq/geneseqp/AA1983.DAT:*
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/SIDSB/gcgdata/geneseq/geneseqp/AA1989.DAT:* /SIDS8/gcgdata/geneseq/geneseqp/AA1991.DAT:*/SIDS8/gcgdata/geneseq/geneseqp/AA1992.DAT:*/SIDS8/gcgdata/geneseq/geneseqp/AA1993.DAT:*/SIDS8/gcgdata/geneseq/geneseqp/AA1994.DAT:*/SIDS8/gcgdata/geneseq/geneseqp/AA1994.DAT:*/SIDS8/gcgdata/geneseq/geneseqp/AA1995.DAT:*/SIDS8/gcgdata/geneseq/geneseqp/AA1995.DAT:*/SIDS8/gcgdata/geneseq/geneseqp/AA1995.DAT:*/SIDS8/gcgdata/geneseq/geneseqp/AA1995.DAT:*/SIDS8/gcgdata/geneseq/geneseqp/AA1995.DAT:*/SIDS8/gcgdata/geneseq/geneseqp/AA1995.DAT:*/SIDS8/gcgdata/geneseq/geneseqp/AA1997.DAT:*/SIDS8/gcgdata/geneseqp/AA1997.DAT:*/SIDS8/gcgdata/geneseqp/AA1997.DAT:*/SIDS8/gcgdata/geneseqp/AA1997.DAT:*/SIDS8/gcgdata/geneseqp/AA1997.DAT:*/SIDS8/gcgdata/geneseqp/AA1997.DAT:*/SIDS8/gcgdata/geneseqp/AA1997.DAT:*/SIDS8/gcgdata/geneseqp/AA1997.DAT:*/SIDS8/gcgdata/geneseqp/AA1997.DAT:*/SIDS8/gcgdata/geneseqp/AA1997.DAT:*/SIDS8/gcgdata/geneseqp/AA1997.DAT:*/SIDS8/gcgdata /SIDS8/gcgdata/geneseg/genesegp/AA1998.DAT:*/SIDS8/gcgdata/geneseg/genesegp/AA1099.DAT:*/SIDS8/gcgdata/geneseg/genesegp/AA3000.DAT:*/SIDS8/gcgdata/geneseg/genesegp/AA3001.DAT:* A_Geneseq_0601:* :01

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

	Description	Amino acid sequenc	Bombesin/qastrin-r	Non-cyclic analogu	Linear litorin ana	Linear litorin ana	Peptide analoque #	Bombesin antagonis	Bombesin antagonis	Bombesin receptor	Bombesin antaqonis	Bombesin peptide a
SUMMARIES	ID	_	AAB48341	AAR04531	AAR11224	AAR11240	AAR14877	AAR28456	AAR28459	AAW64910	AAW50941	AAW92740
	DB	21	22	11	12	12	12	13	13	16	19	20
	Query Match Length DB 1	8	7	œ	œ	80	80	80	80	80	œ	80
υp	Query	92.5	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
	Score	37	36	36	36	36	36	36	36	36	36	36
	Result No.	-	7	m	4	S	9	7	ထ	6	10	11

1.08.	Non-cycles analogs	21.1	C	; c	Non e Hie analona	Pepti nombesin	Exam: of	of	Example of peptide		T.	Peptide analogue #	Peptide malaya	Peptide analogue #		Peptidealoque #	Peptide anal . ae #	Peptide anal, sue #		Э	σ	ō	6-8	6	9-9	3-9	[opnesd 6-8	6-8	{opnesd 6 8		m	(psi8-9 pseudo) No
8 21 AAB08302	11	11	11	11	11 AAR0453	11	12	12	12	12	13	12	12	12	12	Н	12	12	12	12	13	13	~	13	13 AAR2449	13 AAR2449	13	13 AAR2448	~	13 AAR2449	13 AAR2844	
36 90.0		9	9	9	9	9	9 90	9	90	9	و	9	9	9	9	9	9	9	9	ø	9	9	9	9	9	9	9	9	9	9	9	9
12	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	32	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

AAB08309 standard; peptide; 8 AA 04-DEC-2000 (first entry) AAB08309; RESULT AAB08309

Amino acid sequence of antiangiogenic peptide DT-26.

Vasoactive intestinal peptide; VIP; analogue; somatostatin; SOM! SER VIP1; VIP2; VIP3; BOM1; bombesin; SP1; substance P; MuJ-7; tumou; growth.tumour anglogenesis; metastasis; cancer; anglogenesis; adenocarcinoma; leukaemia; lymphoma.

Synthetic

/label= Aib /note= "alpha-aminoisobutyric acid" /note= "amidated residue /note= "D-form residue" Location/Qualifiers Key Misc-difference Modified-site Modified-site

WO200047221-A1

17-AUG-2000.

11-FEB-2000; 2000WO-US03559 99US-0248381 11-FEB-1999;

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                                                                                                                                                                                                                                 AABO8304-15 represent peptides which have an antiangiogenic effect. The specification describes therapeutically active compositions comprising at least one analogue of somatostatin (chosen from SOMI and SOMI), and at least four analogues chosen from vascactive intestinal peptide (VIP) 1 (a VIP antagonist), VIP2 (a VIP receptor binding inhibitor), VIP3 (a Substance P antagonist), The combination of these 7 analogues is known as substance P antagonist). The combination of these 7 analogues is known as Spread by inhibiting tumour angiogenesis. MuJ-7, in addition, inhibits metastasis through its antianglogenic activity in all cancers. The peptides are useful for the treatment and prevention of angiogenesis, especially as a result of adenocarcinomas of the colon, breast, lung, prostate, kidney, leukemias or lymphomas.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Treating cancer involves administering chemotherapy agent conjugated to
                                                                  Mathur A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                               οf
                                                                                                                                         Novel therapeutically active composition comprising at least 5 peptides, useful for treating angiogenesis especially as a result adenocarcinomas -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bombesin/gastrin-releasing peptide receptor-recognising peptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Cancer; chemotherapy; heparin; thrombospondin; drug resistance; toxicity; tumour; cytostatic; metalloprotease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                  Rajendran P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           92.5%; Score 37; DB 21; Length 8; 100.0%; Pred. No. 3.4e+05; ive 0; Mismatches 0; Indels
                                                                Burman AC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Actor P;
                                                               Prasad S,
                                                                                                                                                                                                       Claim 11; Page 31; 42pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAB48341 standard; peptide; 7 AA.
(NAIM-) NAT INST IMMUNOLOGY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21-JUN-2000; 2000WO-US16955.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20-APR-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Williams T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 92.5
Best Local Similarity 100.
Matches 7; Conservative
                                                             Mukherjee R, Jaggi M,
                                                                                                           WPI; 2000-549083/50.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (TUSZ/) TUSZYNSKI G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WILLIAMS T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2001-080760/09
                               (CORD/) CORD J I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (ACTO/) ACTOR P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QWXVGHI 8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21-JUN-1999;
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                                                                               Singh AT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAB48341;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
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The invention relates to a method of treating a patient suffering from cancer that comprises administering a chemotherapy agent conjugated to a peptide, or co-administering the agent and the peptide. The peptides can be selected from heparin binding domains of the thrombospondin protein. The method and compositions comprising the agent and the peptide are useful for treating a patient with drug resistant cancer, and for treating a patient with cancer to prevent drug resistance from occurring. Toxic chemotherapeutic agent can also be used, as peptide conjugation and co-administration can considerably reduce the toxicity of the agent and allow less composition to be administered due to increased efficacy. More effective treatment at lower doses is achieved by targeting the chemotherapy agents to the tumour cells. The present sequence represents bombesin/gastrin-releasing peptide receptor-recognising peptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0; Caps
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(a) a deletion of a residue within the active site and a
a peptide or co-administering chemotherapy agent and the peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mammalian gastrin releasing peptide; amphibian bombesin; cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New non-cyclic analogues of mammalian gastrin releasing peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Non-cyclic analogue of amphibian bombesin and mammalian GRP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             89US-0397169, US-257998; WO-U0416.
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Pred. No. 3.4e+05;
1; Mismatches 1;
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                                                                                                                   Disclosure; Page 6; 44pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAR04531 standard; protein; 8 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            h 90.0%;
Similarity 71.4%;
5; Conservative
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Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              7 AA;
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| qwavghl 7
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AAR04531
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8 AA;
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                                                                                                                                                                                                                                  17-MAY-1991
                                                                                                                                                                                                                                                                                                                                                                       WO9102746-A
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                                                                                                                                                                                                                                                                                                         Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                             AAR11240;
                                                                                                                                                                                                                                                                                     diabetes.
                                            Seguence
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                                                                          Query Match
                                                                                                                                                                                AAR11240
                                                                                                                                                                                                                                                                                                                                Key
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                             On binding to its receptor, the analogue acts as a competitive inhibitor of the naturally occurring peptide but due to the modifications, fails to exhibit the normal in vivo biological activity. The peptides are useful for the treatment of benign or malignant proliferation of tissues, eg cancers of the gastrointestinal tract, pancreatic cancer, colon cancer, lung cancer or breast cancer, for the treatment of atherosclerosis; and disorders of the gastrointestinal tissues.
                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This peptide is a specifically claimed example of a generic formula. The C-terminal amino acid (Met) of the naturally occurring peptide has been converted to an amide and Phe 8 has been replaced by statine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New linear peptide analogues of bombesin - modified to eliminate biological activity while retaining receptor affinity, for treating cancer, diabetes, etc.
modification of a residue outside of the active site; and (b) a replacement of 1 or 2 residues within the active site with a synthetic amino acid.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The peptide is useful for treating benign or malignant tissue proliferation, artherosclerosis, gastrointestinal disorders and
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                                                                                                               This peptide is a claimed example of a highly generic formula.
See also AAR04525-R04533.
                                                                                                                                                                            Score 36; DB 11; Length 8;
Pred. No. 3.4e+05;
1; Mismatches 1; Indels
                                                                                                                                                                             Length 8;
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                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                             AAR11224 standard; Protein; 8 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 13; Page 53; 58pp; English.
                                                                                                                                                                             90.0%;
71.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Kim SH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    90WO-US04646
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                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                            Query Match 90.0
Best Local Similarity 71.4
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                           Linear litorin analogue.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Coy DH, Moreau JP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1991-087241/12.
                                                                                                                                                                                                                                                                                                                                                                                                                                            Misc-difference 1
                                                                                                                                               8 AA;
                                                                                                                                                                                                                     2 QWXVGHI 8
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2 qwavghl 8
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30-MAR-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   17-AUG-1990;
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                                                                                                                                                                                                                                                                                                                                                                                                               Synthetic.
                                                                                                                                                                                                                                                                                                                  AAR11224;
                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                          diabetes
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New linear peptide analogues of bombesin - modified to eliminate biological activity while retaining receptor affinity, for treating
diabetes. They act as competitive inhibitors of natural peptides, since they bind to the cell receptors but have no biological activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The peride is useful for treating benign or malignant tissue proliferation, artherosclerosis, gastrointestinal disorders and diabetes. They act as competitive inhibitors of natural peptides, since they bind to the cell receptors but have no biological activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bombesin; litorin analogue; linear; receptor affinity; cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The analogue may also be of a naturally occurring peptide terminating at the C-terminus with a Met residue, such as the 10 amino acid C-terminal region of mammalian GRP or amphibian
                                                                                                                                                                                                                                      Score 36; DB 12; Length 8; Pred. No. 3.4e+05; 1; Mismatches 1; Indels
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/label= D-p-chloro-phenylalanine
                                                                                                                                                                                                                                                                                                1; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAR11240 standard; Protein; 8 AA.
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                                                                                                                                                                                                                                      90.0%;
71.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Linear litorin analogue (II)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    89US-0397169.
90US-0502438.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Coy DH, Moreau JP, Kim SH;
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                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cancer, diabetes, etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                See also AAR11239-242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 1991-087241/12
                                                                                                                                                                                                                                                                    Best Local Similarity
Matches 5; Conser
                                                                                                                                                       8 AA;
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RESULT AAR14877

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The C-terminal is amidated. The peptide is an example of a highly generic formula for bombesin antagonists which are [psi8-9 pseudo] nonapeptides contg. D- or L-tryptophan or tryptophan analog 2,3,4,9-tetrahydro-IH-pyrido[3,4-b]-indol-3-carboxylic acid (Tpi) at the N- and/or C-terminal.

The peptide is a bombesin/GRP (gastrin releasing peptide) antagonist and is useful for treatment of states of hypergastrinemia, e.g.. pernicious anaemia, chronic atrophic gastritis, Zollinger-Ellison syndrome and vitiligo, associated with diffuse hyperplasia of gastric enterochromaffin-like cells, and with an increased risk of developing multifocal gastric carcinoid tumours. The peptide can also be used to treat lung, colon and gastric cancers. posage is 1-1000 mircrog/kg parenterally.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New nona:peptide bombesin antagonists - used for treating hypergastrinaemic states, such as pernicious anaemia and Zollinger-Ellison syndrome and also used against lung and gastric
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              residues 7-8 are linked via a pseudo
peptide bond"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /label= psi
/note= "residues 7-8 are linked via a pseudo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note= "Hca-Gln; Hca= hydrocinnamic acid'
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Pred. No. 3.4e+05;
1; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                               Bombesin; GRP; gastrin releasing peptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      peptide bond"
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                                                                                            AAR28456 standard; Protein; 8 AA.
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/note= "residues
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71.4%;
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                                                                                                                                                                                                                                                                         Bombesin antagonist (24).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Schally AV;
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                                                                                                                                                                                                              09-DEC-1992
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                                                                                                                                                     AAR28456;
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                                                                    AAR28456
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Peptide agonists of litorin, gastrin releasing peptide -
neuromedin B or C or bombesin, for treating cancer, preventing
smooth muscle proliferation and suppressing appetite and alcohol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 tissue proliferation; gastrin related peptide; peptide hormone
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Peptide analogue #18 of litorin, GRP, neuromedin or bombesin.
                          90.0%; Score 36; DB 12; Length 8; 71.4%; Pred. No. 3.4e+05; ive 1; Mismatches 1; Indels
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Pred. No. 3.4e+05;
1; Mismatches 1; Indels
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/note= "Leu-propylamide"
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                                                                                                                                                                                                                                                                                                                                                 AAR14877 standard; Protein; 8 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 20; Page 19; 25pp; English.
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Best Local Similarity 71.4%;
Matches 5; Conservative
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                                                                                      Conservative
Query Match
Best Local Similarity
Lange 5; Conserve
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2 qwavghl 8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Synthetic.
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DH,

Coy

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Gaps

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Sequence

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1 qwavghl 7

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at the N- and/or C-terminal.

The peptide is a bombesin/GRP (gastrin releasing peptide) antagonist and is useful for treatment of states of hypergastrinemia. e.g. pernicious anaemia, chronic atrophic gastritis, Zollinger-Ellison syndrome and vitiligo, associated with diffuse hyperplasia of gastric enterochromaffin-like cells, and with an increased risk of developing multifocal gastric carcinoid tumours. The peptide can also be used to treat lung, colon and gastric cancers. Dosage is 1.1000 mircrog/kg parenterally.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The C-terminal is amidated. The peptide is an example of a highly generic formula for bombosin antagonists which are [psi8-9 pseudo] nonapeptides contg. D- or L-tryptophan or tryptophan analog 2,3,4,9 tetrahydro-1H-pyrido[3,4-b]-indol-3-carboxylic acid (Tpi)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New nona:peptide bombesin antagonists - used for treating hypergastrinaemic states, such as pernicious anaemia and zollinger-Ellison syndrome and also used against lung and gastric
                                                                                                                                                                                                                                                                                                                                                            /note= "frp(For), For= formyl; residues 7-8 are
linked via a pseudo peptide bond"
                                                                                                                                                                                                                                                                                               /note= "residues 7-8 are linked via a pseudo peptide bond"
                                                                                                                                                                                                                                         /note= "Mpp-Gln; Mpp= 3-(4-methoxyphenyl)
propionic acid"
                                                                                                                                                  Bombesin; GRP; gastrin releasing peptide.
                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure; Page 8; 50pp; English.
                            AAR28459 standard; Protein; 8 AA.
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                                                                                                                   Bombesin antagonist (27).
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                                                                                                                                                                                                                                                                                                                                Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15-NOV-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  29-NOV-1990;
                                                                                       09-DEC-1992
                                                                                                                                                                                                                                                                                                                                                                                                         WO9209626-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                       11-JUN-1992.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cancer, etc.
                                                                                                                                                                              Synthetic
                                                           AAR28459;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
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RESULT AAR28459
                                             B FFF KWW XXX
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The patent discloses (1) the peptide sequence of bombesin (UBUN), the patent releasing peptide (GRP), Neuromedin B or Neuromedin C, the peptide sequence having a chlorambucil group attached to the amino terminal; (2) a BBN receptor antagonist of formula R4-His-Trp-Ala-R1-R2-His-R3-C0-CH2CH3; and (3) a BBN receptor antagonist of formula R4-R8-R5-Trp-Ala-V41-R2-His-Leu-CO-CH1.

In these formulae, R1 = Val or Thi; R2 = Gly or D-Ala; R3 = Leu or Phe; R4 = N-acetyl, bromoacetyl, chloroacetyl, [bis(2-chloroethyl)].

C aminol-L-phenylalanine or a chlorambucil group; and R5 = Gln. His.

The compounds act as potent BBN/GRP-like peptide antagonists. Hey can be used to inhibit the growth of cells that are sensitive to the growth-promoting effects of BBN, GRP or a related peptide such as pancreatic cells, gastric cells, neurons, hypothalamic cells und cancerous cells or tumours. They can also be used to inhibit the bidding of BBN, GRP or a related peptide to cells capable of such
                                                                                                                                                                                                                                                                                                                                                             bromoacetyl, chloroacetyl, [bis(2-chloroeth, ) amin. |- L-phenylalanine or a chlorambucil group"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    binding. They can be used for treating e.g. peptic ulcer, pancreatitis, eating disorders, diabetes, acromegaly, enterocutaneous fistula, psoriasis, growth retardation, gastrointestinal motility disorders or tumours. The terminal structures of the compounds protect them from in vivo proteolysis and provide highly potent antagonist effects that persist for extended periods of time upon administration.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New bombesin, gastrin releasing peptide or Neuromedin B or C derivs - antagonists for treating conditions such as gastrointesting
                                                                                                                                                                                       eating disorder; diabetes; acromegaly; enterocutaneous fistula; psoriasis; growth retardation; gastrointestinal motility disorder; antitumour.
                                                                                                                                                                                                                                                                                                                                                                                                                      "The carboxy terminal is in the form : an
                                                                                                                                                                   Bombesin; antagonist; chlorambucil; peptic ulcer; pancreatitis,
                                                                                                                                                                                                                                                                                                                                             /note= "The amino terminal is acylated with
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Chandrasekhar B, Knight M, Takahashi K;
                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (PEPT-) PEPTIDE TECHNOLOGIES CORP.
               AAW64910 standard; peptide; 8 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       disorders, psoriasis and cancers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 6; Page 34; 45pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                      /note= "The c
ethyl ester"
                                                                                                                                  Bombesin receptor antagonist.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             93US-0078062
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9305-0168390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        94WO-US06757
                                                                                          06-JUL-1999 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 1995-052004/07.
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                                                                                                                                                                                                                                                                                                       Key
Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                    Modified-site
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            17-DEC-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO9500542-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18-JUN-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   05-JAN-1995.
                                                                                                                                                                                                                                                                  Synthetic.
                                                     AAW64910;
AAW64910
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8 AA;

Sequence

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Gaps

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Length 8;

Score 36; DB 13; Length 8; Pred. No. 3.4e+05; 1; Mismatches 1; Indels

90.0%; ilarity 71.4%; Conservative

Query Match Best Local Similarity Matches 5; Conserv

2 QWXVGHI 8

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The invention relates to a new composition which comprises: (i) the somatostatin analogue SOM2 AGCKNFFGWKTPTSGC (3-14 disulphide bridge), and (ii) at least 4 of the peptides: antagonist of wasoactive.

and (ii) at least 4 of the peptides: antagonist of wasoactive.

intestinal peptide (VIP1): VIP receptor-binding inhibitor (VIP2); VIP receptor antagonist (VIP3); somatostatin analogue (SOM1): bombesin and substance P antagonist (SP1). Also claimed are more general compositions containing peptide analogues of somatostatin, VIP, bombesin and substance P. The compositions are used in human or veterinary medicine: (a) to kill (or inhibit multiplication of) tumour concercinoma of stomach, pancreas or prostate, or cancer of lung, breast, kidney or particularly rectum and colon, and (b) to prevent, bridge or modulate over-expression of, e.g. VIP. A wide range of cancer cells express receptors for VIP, somatostatin, bombesin and/or substance or The present sequence represents bombesin antagonist (BOM1).
                                                                                                                                                                                                                                                                                                                         Vasoactive intestinal peptide; VIP; antagonist; somatostatin; bombesin; Substance P; cancer; inhibition.
                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        peptide,
tumours
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Composition containing analogues of vasoactive intestinal somatostatin - bombesin and substance P, for treatment of and for inhibiting over-expression of these peptide(s)
               Score 36; DB 16; Length 8;
Pred. No. 3.4e+05;
1; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                         'note= "D-form residue"
                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                           AAW50941 standard; peptide; 8 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note= "Leu-NHEt"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 1; Page 4; 49pp; English.
               90.0%;
ilarity 71.4%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         96EP-0309012.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        96US-0727679.
                                                                                                                                                                                                                                                                                          Bombesin antagonist (BOM1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (NAIM-) NAT INST IMMUNOLOGY
                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mukherjee R;
Query Match
Best Local Similarity
``hea 5; Conservē
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 1998-208959/19.
                                                                                                                                                                                                                                                                                                                                                                                                           Key
Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8 AA;
                                                                                QWXVGHI 8
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2 qwavghl 8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       11-DEC-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        08-OCT-1996;
16-AUG-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EP835662-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         15-APR-1998
                                                                                                                                                                                                                                                                                                                                                                          Synthetic
                                                                                                                                                                                                                             AAW50941;
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This invention describes novel peptides which are analogues of filtering or the 10 amino acid carboxy-terminal region of mammalian gastrin releasing peptide or the 10 amino acid carboxy-terminal region of amphibian bombesin of formula (R1)(R2)Al-A2-Trp-44-A5-A6-A7-W where Al D-isomer of p-X-Phe, Trp or beta-Nal; X = F, Cl, Br, NO2, OH, H of Me; A2 = Gly, Ala, Val, Gln, Asn, Lie, Ile, Met, p-X-Phe, Trp, Cys, beta-Nal, His, I-methyl-His of 3-methyl-His; A4 = Ala, Val, Gln, Asn, Gly, Leu, Ile, Nle, Ala, Val, Gln, Asn, Gly, Leu, Ile, Nle, A5 = Gln, Asn, Gly, Leu, Ile, Nle, A1, p-X-Phe, Trp, Cys or beta-Nal; A5 = Gln, Asn, Gly, Thr or beta-Nal; A6 = Sar, Gly or b-isomer of Ala, N-methyl-Ala, Val, Gln, Asn, Leu, Ile, Met, p-X-Phe, Trp, Cys or
                                                                                                                                                                                                                                                 Bombesin, gastrin releasing peptide; GRP; GRF; litorin; proliferation; growth hormone releasing factor; treatment; benign; malignant; tissue; small-cell lung carcinoma; atherosclerosis; gastrointestinal disorder; diabetes; diabetes related retinopathy.
                ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New peptides - useful for treating benign or malignant tissue proliferation, gastrointestinal disorders and diabetes
                Indels
 71.4%; Pred. No. 3.4e+05;
tive 1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                   /note= "Residue is pyroglutamate"
8
                                                                                                                                                                                                                                                                                                                                                                                                       /note= "methylester C-terminus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Column 29-30; 22pp; English.
                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                      AAW92740 standard; peptide; 8 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TULANE EDUCATIONAL FUND.
                                                                                                                                                                                                                        Bombesin peptide analogue #6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8805-0207759
8805-0248771
8805-0257998
8805-0282328
8905-0317941
8905-0376555
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88US-0173311
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                                                                                                                                                                                              30-APR-1999 (first entry)
              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (BIOM-) BIOMEASURE INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 1999-189718/16.
Best Local Similarity
Matches 5; Conserv
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                                        QWXVGHI 8
                                                          || ||| gwavghl
                                                                                                                                                                                                                                                                                                                                                              Modified-site
                                                                                                                                                                                                                                                                                                                                                                                         Modified-site
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                                                                                                                                                                                                                                                                                                                                                                                                                                   US5877277-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  24-SEP-1987;
25-MAR-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          16-JUN-1988;
23-SEP-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         10-NOV-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               08-JUN-1988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       14-0CT-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  09-DEC-1988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             07-JUL-1989,
30-MAR-1990;
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                                                                                                                                                                                                                                                                                                                       Synthetic.
                                                                                                                                                                  AAW92740;
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                                                                                                            RESULT 1
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beta-Nal; A7 = His or 1-methyl or 3-methyl-His; W = -N(R3)-CH(Z1)-R4-CH(Z2)-C(=O)V; R4 = CHZNH; Z1, Z2 = Gly, Ala, Val, Leu, Ile, Ser, Asp, Asn, Glu, Gln, p-X-Phe, Trp, Cys, Met, Pro, Hypro or cyclohexylAla; V = OR5 or NR6R7; R3, R5, R6, R7 = H, lower alkyl, phenyl(lower alkyl) or naphthyl(lower alkyl); R1, R2 = H, 112C alkyl, 7-10C phenylalkyl or COE1; Where R1 and R2 are bonded to the N-terminal amino acid of the peptide; E1 = 1-20C alkyl, 3-20C alkenyl, 3-20C alkynyl, Ph, naphthyl or 7-10C phenylalkyl; provided that when 1 of R1 and R2 is COE1, the other must be H. The peptides can be used for treating benign or malignant proliferation of tissue e.g. small-cell lung carcinoma, atherosclerosis, gastrointestinal disorders, and diabetes or diabetes related retinopathy. AMW92735-W92742 represent bombesin peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mathur A;
                                                                                                                                                                                                                                                                                         Gaps
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                                                                                                                                                                                                                                                           Length 8;
                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                         Score 36; DB 20; Le
Pred. No. 3.4e+05;
1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Amino acid sequence of bombesin analogue BOM1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note= "residue is Leu-NHEt"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           'note= "D-form residue"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mukherjee R, Jaggi M, Prasad S,
                                                                                                                                                                                                                                                                                                                                                                                                                     AAB08302 standard; peptide; 8 AA.
                                                                                                                                                                                                                                                         90.0%;
71.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               11-FEB-2000; 2000WO-US03559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99US-0248381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (NAIM-) NAT INST IMMUNOLOGY (DABU-) DABUR RES FOUND.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                       Query Match 90.0
Best Local Similarity 71.4
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     leukaemia; lymphoma.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Misc-difference 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (CORD/) CORD J I.
                                                                                                                                                                                                              8 AA;
                                                                                                                                                                                                                                                                                                                2 QWXVGHI 8
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2 qwavghl 8
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                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAB08302;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Singh AT;
                                                                                                                                                                                                                                                                                                                                                                                          RESULT 12
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specification describes therapeutically active compositions comprising at least one analogue of somatostatin (chosen from SOMI and SOM2), and at least four analogues chosen from vasocative intestinal peptide (vi), 10 a VIP antagonist), VIP2 (a VIP receptor binding inhibitor), VIP3 (a VIP receptor antagonist), The combination of these 7 analogues is known as MuJ-7. By antagonist), The combination of these 7 analogues is known as MuJ-7. MuJ-7 is used as an anticancer drug to restrict tumour growth and spread by inhibiting tumour anglogenesis. MuJ-7, in addition, inhibiting peptides are useful for the treatment and prevention of angloticisis, especially as a result of adenocarcinomas of the colon, breast, lung,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Monitoring therapeutic gene transfer and expression into a subject, by administering vector encoding the gene and gene for membrane expressed targeting molecule, and a radiolabeled ligand, and imaging gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          transfer; gastrin releasing peptide receptor; GRPr;
                                                                                                                                                                                                                                                                                                                                 Gaps
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                                                                                                                                                                                                                                                                                           Score 36; DB 21; Length 8; Pred. No. 3.4e+05; 1; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Rogers BE;
                                                                                                                                                                                                       prostate, kidney, leukemias or lymphomas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Example 10; Page 33; 107pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Zinn KR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAB72406 standard; peptide; 8 AA.
                                                                                                                                                                                                                                                                                           90.0%;
71.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     16-AUG-2000; 2000WO-US22456.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       16-AUG-1999; 99US-0374972.
01-JUN-2000; 2000US-0585194.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
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                                                                                                                                                                                                                                                                                                                                   Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2001-218310/22.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gene therapy; gene
bombesin analogue;
                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bombesin analogue.
                                                                                                                                                                                                                                            AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO200112234-A1.
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2 qwavghl 8
                                                                                                                                                                                                                                                                                                                                                                   2 QWXVGHI 8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Unidentified
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                                                                                                                                                                                                                                            Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT
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8 AA;

Sequence

Novel therapeutically active composition comprising at least 5 peptides, useful for treating angiogenesis especially as a result of adenocarcinomas -

WPI; 2000-549083/50.

The present sequence represents an analogue of bombesin. The

Disclosure; Page 8; 42pp; English.

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                On binding to its receptor, the analogue acts as a competitive inhibitor of the naturally occurring peptide but due to the modifications, fails to exhibit the normal in vivo biological activity. The peptides are useful for the treatment of benign or malignant proliferation of tissues, eg cancers of the gastrointestinal tract, pancreatic cancer, colon cancer, lung cancer or breast cancer, colon cancer, lung cancer or breast gastrointestinal tissues.
                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New non-cyclic analogues of mammalian gastrin releasing peptide and amphibian bombesin, used for cancer treatment eg small cell lung carcinoma, atherosclerosis and gastrointestinal disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The peptide has an active site and a binding site for binding to target cell receptor, and has one of the following modifications: (a) a deletion of a residue within the active site and a modification of a residue outside of the active site; and (b) a replacement of 1 or 2 residues within the active site with a
                                                                                                                                                                                                                                                                                                  Mammalian gastrin releasing peptide; amphibian bombesin; cancer; therapeutic peptides.
                                 .;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This peptide is a claimed example of a highly generic formula
See also AAR04525-R04533.
                                                                                                                                                                                                                                                                 Non-cyclic analogue of amphibian bombesin and mammalian GRP
 Length 8;
Score 36; DB 22; Length 8;
Pred. No. 3.4e+05;
1; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     89US-0397169, US-257998; WO-U0416.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Kim SH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          /label=beta-homoleucine
                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                     AAR04526 standard; protein; 9 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (TULA ) TULANE E FUND ADMINISTRA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Coy DH, Moreau J-P, Taylor JE,
                                                                                                                                                                                                                                                                                                                                                                                                                           /note= "D-p-Cl"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 8; Page 49; 68pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                            /label= OTHER
90.0%;
71.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       89WO-US00416.
                                                                                                                                                                                                                                     (first entry)
           Best Local Similarity 71.4
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             synthetic amino acid.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1990-147822/19.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C-terminal = NH2.
                                                           2 QWXVGHI 8
                                                                             || |||:
1 qwavghl 7
                                                                                                                                                                                                                                                                                                                                                                                             Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                          Modified-site
                                                                                                                                                                                                                                    24-SEP-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     13-OCT-1989;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   21-AUG-1989;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO9003980-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        19-APR-1990.
                                                                                                                                                                                                                                                                                                                                                 Synthetic
                                                                                                                                                                                                      AAR04526;
Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                       14
                                                                                                                                                        AAR04526
                                                                                                                                     RESULT
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inhibitor of the naturally occurring peptide acts as a competitive inhibitor of the naturally occurring peptide but due to the modifications, fails to exhibit the normal in vivo biological activity. The peptides are useful for the treatment of benign or malignant proliferation of tissues, eg cancers of the gastrointestinal tract, pancreatic cancer, colon cancer, lung cancer or breasi cancer; for the treatment of atherosclerosis; and disorders of the gastrointestinal tissues.

This peptide is a claimed example of a highly generic formula.
                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New non-cyclic analogues of mammalian gastrin releasing peptide - and amphibian bombesin, used for cancer treatment eg small cell lung carcinoma, atherosclerosis and gastrointestinal disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The peptide has an active site and a binding site for binding to a target cell receptor, and has one of the following modifications:

(a) a deletion of a residue within the active site and a modification of a residue outside of the active site; and (b) a replacement of 1 or 2 residues within the active site with a synthetic amino acid.

On binding to its receptor, the analogue acts as a competitive of the analogue acts as a competitive of the site with a synthetic amino acid.
                                 ċ
                                                                                                                                                                                                                                                                                    Mammalian gastrin releasing peptide; amphibian bombesin; caurtherapeutic peptides.
                                                                                                                                                                                                                                                               Non-cyclic analogue of amphibian bombesin and mammalian GRP.
    Length 9;
                                 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         89US-0397169, US-257998; WO-U0416.
                3.4e+05;
   DB 11;
                                                                                                                                                                                                                                                                                                                                                                                                     'label= D-beta-naphthylalanine
                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                   /label=leucine psi[CH2NH]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SH;
   Score 36;
                 Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Kim
                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Taylor JE,
                                                                                                                                                                   AAR04527 standard; protein; 9 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (TULA ) TULANE E FUND ADMINISTRA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 12; Page 52; 68pp; English.
 90.08;
                71.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              89WO-US00416.
                                                                                                                                                                                                                                (first entry)
                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Coy DH, Moreau J-P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 1990-147822/19.
                Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C-terminal = NH2.
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Modified-site
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3 qwavghl
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                                                           2 QWXVGHI
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Query Match
                                                                                                                                                                                                 AAR04527;
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                                                                                                                                                      AAR04527
                                                                                                                                       RESULT
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DB 11; Length 9;

90.0%; Score 36;

9 AA;

Sequence

Query Match

0; Gaps Best Local Similarity 71.4%; Pred. No. 3.4e+05; Matches 5; Conservative 1; Mismatches 1; Indels

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2 QWXVGHI 8 || || || || : 2 qwavghl 8 Qy

Search completed: October 25, 2001, 11:22:46 Job time: 219 sec

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October 25, 2001, 11:27:44; Search time 135.34 Seconds (without alignments) 7.821 Million cell updates/sec
GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                     OM protein - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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38
                                                                                                                                                                                                                       1 XQWAVXHI 8
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Perfect score:
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                                                                                                                                                                                                                         Sequence:
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425026 al number of hits satisfying chosen parameters:

425026 seqs, 132305027 residues

Searched:

imum DB seq length: 0 imum DB seq length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

sp_archea:*
sp_bacteria:*
sp_fungi:*
sp_human:*
sp_invertebrate:* sp_rodent:*
sp_unclassified:* sp_vertebrate:*
sp_virus:* sp_mammal:*
sp_mhc:*
sp_organelle:* sp_plant:* SPTREMBL_16:* sp_phage:* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Description	09dd12 brachydanio	O9x5q8 streptomyce	O9m4a9 pisum sativ			Q27106 trichomonas	093576 lacerta vir	Q9dsp4 saint croix	093575 emys orbicu	Q9vcu2 drosophila	Q9nu68 homo sapien	015057 homo sapien	093574 qallus qall	P78509 homo sapien	Q60841 mus musculu	Q9diz8 human adeno	Q9diz7 human adeno	Q9diz6 human adeno	Q9diz5 human adeno
ΩI	09DDL2	09x5G8	09M4A9	064981	090253	927106	093576	Q9DSP4	093575	Q9VCU2	09NU68	015057	093574	P78509	060841	09DIZ8	Q9D1Z7	92IG60	09DIZ5
DB	13	~	10	14	13	S	13	14	13	S	4	4	13	4	11	14	14	14	14
% Query Match Length DB	806	328	453	98	119	309	338	517	615	969	1273	1275	3209	3460	3461	100	100	100	100
% Query Match	89.5	84.2	84.2	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	78.9	78.9	78.9	78.9
Score	34	32	32	31	31	31	31	31	31	31	31	31	31	31	31	30	30	30	30
Result No.		7	m	4	2	9	7	8	6	10	11	12	13	14	15	16	17	18	19

0941: 4 h man 0940: 2 human odeno 0941: 2 human odeno 0941: 2 human odeno 0941: 2 human odeno 0941: 9 human odeno 05581 holianth: 996591 hadianth: 996591	Ogyved human aderu. Ogyved human aderu. Ogyved human adeno Ogyved human adeno Q67811 human adeno
Q9D124 Q9D123 Q9D122 Q9D120 Q9D170 Q9D179 Q9D176 Q9D176 Q9D176 Q9D176 Q9D191 Q9	Q9YVE1 Q9YVE0 Q9YVD9 Q67814
44444444 0 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4444
1000 1000 1000 1000 1000 1000 1000 100	9934 934 936
77888888888888888888888888888888888888	78.9 78.9 78.9
	000000000000000000000000000000000000000
01222222222222222222222222222222222222	1 4 4 4 4 1 4 6 4 6

ALIGNMENTS

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Uren A.G., O'Rourke K., Aravind L., Pisabarro M.T., Seshagir S., Koonin E.V., Dixit V.M.;
"Identification of Paracaspases and Metacaspases. Two Ancient ramilies of Caspase-like Proteins, One of which Plays a Key Role in MAP.T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                          Brachydanio rerio (Zebrafish) (Zebra danio).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleo. hi;
Actinopterygii; Neopterygii; Teleostei; Euteleostei; Ostari, hij;
Cypriniformes; Cyprinidae; Rasborinae; Danio.
                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 89.5%; Score 34; DB 13; Length 806
Best Local Similarity 57.1%; Pred. No. 48;
Matches 4; Conservative 2; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                      Lymphoma.";
Mol. Cell 6:961-967(2000).
EMBL, A7316598; AAG38590.1; -.
SEQUENCE 806 AA; 90754 MW; 589A8BC2013B0A51 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       09X5G8 PRELIMINARY; PRT; 328 AA.
09X5G8;
01.NOV-1999 (TrEMBLrel. 12, Created)
01.NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-NOV-1999 (TrEMBLrel. 16, Last annotation update)
                                                                01-MAR-2001 (TrEMBLrel. 16, Created)
01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
                                  806 AA
                                  PRT;
                                  PRELIMINARY;
                                                                                                                                                                                                                      [1]
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                      PubMed=11090634;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |||: |:
559 QWAIAHV 565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 QWAVXHI 8
                                                                                                                   PARACASPASE.
                                 Q9DDL2;
Q9DDL2;
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09X5G8
ID 09
AC 09
DT 01
DT 01
RESULT
                   Q9DDL2
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Bombina orientalis (Oriental fire-bellied toad).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleoslomi;
Amphibia; Batrachia; Anura; Archeobatrachia; Bombinatoridae; Bombina.
                                                                                                                        MRNA UNKNOWN FUNCTION (523BP) (FRAGMENT).
Artichoke latent potyvirus.
Viruses; ssRNA positive strand viruses, no DNA stage; Potyviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              [1]
SEQUENCE FROM N.A.
MEDLINE-96205965; PubMed-8631814;
Nagalla S.R., Barry B.J., Falick A.M., Gibson B.W., Taylor J.E.,
Dong J.Z., Spindel E.R.,
"There are three distinct forms of bombesin. Identification of [Leu13] bombesin, [Phe13] bombesin, [Phe13] bombesin, and [Ser3, Arg10, Phe13] bombesin.
                                                                                                                                                                                                                                                                                                                                                              14; Length 98;
                                                                                                                                                                                                                                                         Submitted (MAY-1995) to the EMBL/GenBank/DDBJ databases. EMBL, X87255; CAA60708.1; -. NON TER SEQUENCE 98 AA; 11570 MW; C4A6316685E31078 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3C9BDF367441E99A CRC64;
                                                                                              01, Last sequence update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 81.6%; Score 31; DB 13;
83.3%; Pred. No. 27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro; IPKUUU0,4, . . . Pfam: PF02044; Bombesin; 1. PROSITE; PS00257; BOMBESIN; 1. 59 PHE-13 BOMBESIN.
                                           98 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               119 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    309 AA.
                                                                                                                                                                                                                                                                                                                                                        81.6%; Score 31; DB
83.3%; Pred. No. 22;
live 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Mismatches
                                                                            01, Created)
                                             PRT;
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027106;
01-NOV-1996 (TrEMBLrel. 01, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             the frog Bombina orientalis.";
J. Biol. Chem. 271:7731-7737(1996).
EMBL; U49450; AAC59784.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PHE-13 BOMBESIN PREPROHORMONE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              119 AA; 13888 MW;
                                           PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                           Conservative
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                                                                                          (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                             (TrEMBLrel.
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Matches 5; Conserv
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Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                        NCBI_TaxID=46076;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=8346;
                                                                                                                                                                                                                                                                                                                                                                                                                                               1111 |
89 QWAVEH 94
                                                                                                                                                                                                                                                                                                                                                                                                                          2 QWAVXH 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ||||| |
51 QWAVGH 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 QWAVXH 7
                                                       064981;
01-NOV-1996
                                                                                        01-NOV-1996
01-AUG-1998
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                                                                                                                                                                          Potyvirus
                                                                                                                                                                                                                                                                                                                                                            Query Match
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                                         064981
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                        064981
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AC 02
DT 01
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0
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Buchner P., Wuilleme S., Boutin J.P., Rochat C.;
Buchner P., Wuilleme S., Boutin J.P., Rochat C.;
Characterization of a new isolated tissue specific and developmental regulated 1,3-b-glucanase gene in pea (Pisum sativum).";
Submitted (NOV-1999) to the BMBL/GenBank/DDBJ databases.
EMBL; AJ251646; CAB85903.1; -.
InterPro: IPR00499. -.
InterPro: IPR00332; Glyco_hydro_17; 1.
ProDom; PD008669; -: 1.
Signal; Hydrolase; Glycosidase.
                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosids I;
Fabales; Fabaceae; Papilionoideae; Pisum.
NCBI_TaxID=3888;
                                                Bacteria; Firmicutes; Actinobacteria; Actinobacteridae; Actinomycetales; Streptomycineae; Streptomyces.
                                                                                                                                                                                                                                                                                                                                                                                                                       ó;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
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Pred. No. 68;
0; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                  84.2%; Score 32; DB 2; Length 328; 83.3%; Pred. No. 48; 1; Indels ive 0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                  328 AA; 34642 MW; 4CBC78DAD5215034 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BETA-1,3 GLUCANASE.
BA150E1F8807A888 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-OCT-2001 (TrEMBLrel. 16, Last annotation update)
BETA-1,3 GLUCANASE PRECURSOR (EC 3.2.1.39).
GNS2.
PUTATIVE DEACETYLCEPHALOSPORIN C ACETYLTRANSFERASE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       453 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT;
                                                                                                                                                    MEDLINE=99240369; PubMed=10223939;
                                                                                                                                                                                                                                                                                               Pfam; PF00561; abhydrolase; 1.
Transferase; Porin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         49278 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        84.2%;
71.4%;
                               Streptomyces clavuligerus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pisum sativum (Garden pea)
                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 83.3
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 71.4

Best Local Similarity 71.4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
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97 QWVVTHI 103
                                                                                NCBI_TaxID=1901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        133 QWAVSH 138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 QWAVXHI 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 QWAVXH 7
                                                                                                                                  STRAIN-NRRL
                                                                                                                                                                                                                                                                                   nterPro;
                                                                                                                                                                                                                                                                                                                                  SEQUENCE
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Q9M4A9; 09M4A9

RT RT RT DR DR DR FT SQ

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Gaps

0;

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DE RESERVANTO DE LA COMPANSION DE LA COM

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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eurelo...
Testudines; Cryptodira; Testudinoidea; Emydidae; Emys.
NCBI_TaxID=82168;
                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

Attoui H., De Micco P., de Lamballerie X.;

"Complete nucleotide sequence of Saint Croix river virus.";

"Complete nucleotide sequence of Saint Croix river virus.";

Submitted (APR-1999) to the EMBL/GenBank/DDBJ databases.

EMBL; AF145403; AAG34262.1;

SEQUENCE 517 AA; 58030 MW; 0104A543FB2A1B1A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                    h 81.6%; Score 31; DB 14; Length 517, Similarity 57.1%; Pred. No. 1.3e+02; 4; Conservative 2; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            81.6%; Score 31; DB 13; Length 615 57.1%; Pred. No. 1.5e+02; arive 2; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bernier B., Goffinet A.M.;
"Comparative study of reelin expression in vertebrates.";
submitted (SEP-1998) to the EMBL/GenBank/DDBJ databases.
EMBL; AF090843; AAC35933.1; -.
InterPro; IPR000561; -.
InterPro; IPR002860; -.
Pfam; PF00008; EGF. 2.
Pfam; PF00012; BNF, 2.
PROSITE; PS00022; EGF.1; UNKNOWN_2.
SMART; SM00181; EGF.2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     615 AA; 69837 MW; A074D7AD9979C9DB CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-NOV-1998 (TrEMBLrel. 08, Created)
01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
                                                                                                                                                      Last sequence update)
Last annotation update)
                                                                                                                                                                                                                       Viruses; dsRNA viruses; Reoviridae; Orbivirus.
NCBI_TaxID=104581;
                                                                                               517 AA
                                                                                                                                     Created)
                                                                                                 PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SMART; SM00181; EGF; 1.
EGF-like domain; Glycoprotein.
                                                                                                                               01-MAR-2001 (TrEMBLrel. 16, 01-MAR-2001 (TrEMBLrel. 16, 01-MAR-2001 (TrEMBLrel. 16,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ouery Match
Best Local Similarity 57.1.
نامح 4; Conservative
                                                                                                                                                                                                           Saint Croix river virus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
                                                                                                 PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REELIN (FRAGMENT).
Emys orbicularis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
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572 QWALDHV 578
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     295 QWALDHV 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2 QWAVXHI 8
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                                                                                             Q9DSP4
O9DSP4;
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093575
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Q9DSP4
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                                                                                                                                                                                                       Mallinson D.J., Lockwood B.C., Coombs G.H., North M.J.;
"Identification and molecular cloning of four cysteine proteinase
genes from the pathogenic protozoon Trichomonas vaginalis.";
Microbiology 140:2725-2735(1994).
EMBL; X77218; CAA54435.1; -.
HSSP; P07711; ICJL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Lacerta viridis.
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Lepidosauria; Squamata; Scleroglossa; Scincomorpha; Lacertoidea;
Lacertidae; Lacerta.
NCBI_TaxID=65476;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CYSTEINE PROTEINASE, PUTATIVE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | [1]
| Bernier B., Goffinet A.W.;
| Bernier B., Goffinet A.W.;
| Bernier B., Goffinet A.W.;
| Comparative study of reelin expression in vertebrates.";
| Submitted (SEP-1999) to the EMBL/GenBank/DDBJ databases.
| EMBL; AF090951; AAC36362.1; -...
| InterPro: IPR000561; -...
| PR05ITE; PS010022; EGF_1; UNKNOWN_1.
| PROSITE; PS01065; EGF_2; 1...
| PROSITE; PS01186; EGF_1...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                81.6%; Score 31; DB 5; Length 309;
83.3%; Pred. No. 73;
tive 0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE 309 AA; 34408 MW; B03D5BC6077F69E5 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE 338 AA; 38175 MW; C9D2142E115A388B CRC64;
                                                                          Trichomonas vaginalis.
Eukaryota; Parabasalidea; Trichomonadida; Trichomonas.
NCBI_TaxID=5722;
01-NOV-1996 (TrEMBLrel. 01, Last sequence update) 01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
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Last annotation update)
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InterPro; IPR000169; -...
InterPro; IPR000169; -...
Pfam; PF00112; Peptidase_C1; 1...
PRINTS; PR00705; PAPAIN.
PROSITE; PS00640; THIOL_PROTEASE_ASN; 1...
Hydrolase; Thiol protease.
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                                                                                                                                                                                   MEDLINE-95093621; PubMed-8000542;
                                     CYSTEINE PROTEINASE, PUTATIVE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-NOV-1998 (TrEMBLrel. 08, 01-NOV-1998 (TrEMBLrel. 08, 01-MAR-2001 (TrEMBLrel. 16,
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Best Local Similarity 83.5.
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                                                                                                                                                  SEQUENCE FROM N.A.
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| 126 QWAVKH 131
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RESULT 093576 ID 09 AC 09 DT 01 DT 01 DE RE GN RE

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Gaps

Last sequence update) Last annotation update)

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PRT; 1273 AA

PRELIMINARY;

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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                              Submitted (FEB-2000) to the EMBL/GenBank/DDBJ databases. EMBL; ALO49843; CAB75421.1; -. InterPro; IPR000408; -.
                                                                                                                                                                        DJ392M17.3 (KIAA0349 PROTEIN) (FRAGMENT).
DJ392M17.3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PROSITE; PS00626; RCC1_2; UNKNOWN_1.
                                                                                        01-OCT-2000 (TrEMBLrel. 15, 01-OCT-2000 (TrEMBLrel. 15, 01-MAR-2001 (TrEMBLrel. 16,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-JAN-1998 (TrEMBLrel. 05, 01-JAN-1998 (TrEMBLrel. 05, 01-MAR-2001 (TrEMBLrel. 16,
                                                                                                                                                                                                                             Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
'-hnc 5; Conservē
                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                        NCBI_TaxID=9606;
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                                                                  Q9NU68;
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                                         09NU68
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015057
           99NU69
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RA Admentides P.G., Scherer S.E., Li P.W., Boakins R.A., Galle R.F.,

RA Amenatides P.G., Scherer S.E., Li P.W., Hoskins R.A., Galle R.F.,

RA Amenatides P.G., Scherer S.E., Richards M., Honderson S.N.,

Sutton G.G., Worthan J.R., Yandell M.D., Zhang Q., Chen L.X.,

Brandon R.C., Bogers Y. H.C., Blazel R.G., Champen M., Pfediffer B.D.,

RA Abril J.F., Apdraon J.R., An H.-J., Andrews-Pfannkoch C., Baldwin D.,

RA Bellew R.M., Basu A., An H.-J., Andrews-Pfannkoch C., Baldwin D.,

RA Bellew R.M., Basu A., Baxendale J., Baytarkaroglu L., Bassley E.M.,

RA Bellew R.M., Basu A., Baxendale J., Baytarkaroglu L., Bassley E.M.,

RA Bellew R.M., Basu A., Baxendale J., Baytarkaroglu L., Bassley E.M.,

RA Bellew R.M., Basu A., Bouck J., Broketien P., Brothers P., Chandra I.,

RA Burtis K.C., Busam D.A., Buller H., Cadieu E., Center A., Chandra I.,

RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,

RA Durbin K.J., Evangelista C.C., Ferriaz C., Perriaz C., Dunn P.,

RA Durbin K.J., Evangelista C.C., Ferriaz C., Perriaz C., Bother R.,

RA Durbin K.J., Evangelista C.C., Ferriaz C., Renischman W.,

RA Harris N.L., Harvey D., Heimm T.J., Hernandez J.R., Houck J.,

RA Hastin D., Houston K.A., Howland T.J., Wei M.-H., Ibeywam C.,

A Jalail M., Kalubs F., Karpen G.H., Ke Z., Kennison J.A.,

RA Lasko P., Lei Y., Levitsky A.A., Li J., Li Z., Liang Y., Lin X.,

RA Liu X., Mattei B.., Kodira C.D., Kraft C., Morris J., Moshrefi A.,

Monthon S.M., Nelson K.A., Mornich R., Wortex E., Wang A.,

RA Shie E., Spradling A.C., Stapleton M., Skupski M.P., Smith T.,

RA Shie E., Spradling A.C., Stapleton M., Skupski M.P., Smith T.,

RA Shie E., Spradling A.C., Stapleton M., Skupski M.P., Smith T.,

RA Jabas S.M., Woodage T., Worley K.C., Wu D., Yang S., Yao,

RA Shie B.C., Siden Kiamos I., Simpson M., Zhou K., Zhu X., Smith H.O.,

RA Jiliams S.M., Woodage T., Wolley K.C., Wu D., Yang S., Yao,

Zheno X.H., Wassarman D.B., Welley C., Willey M., Welley C.,

Scheeler E., Spradling A.C., Stapleto
                                                                                                                                                  Drosophila melanogaster (Fruit fly).
Bukaryota, Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
Bukaryota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 31; DB 5; Length 696;
Pred. No. 1.7e+02;
0; Mismatches 1; Indels
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                                                                                (TrEMBLrel. 13, Last sequence update) (TrEMBLrel. 16, Last annotation update)
     696 AA.
                                                          Created)
     PRT;
                                                                                                                                                                                                                                                                                                                                                                          STRAIN=BERKELEY; MEDLINE=20196006; PubMed=10731132;
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                                                 01-MAY-2000 (TrEMBLrel 13, 01-MAY-2000 (TrEMBLrel, 13,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Science 287:2185-2195(2000).
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Best Local Similarity 83.3%;
Matches 5; Conservative
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  PRELIMINARY;
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InterPro; IPR001230;
                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
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                                                                                                                                  CG4723 PROTEIN.
                                                                                                      01-MAR-2001
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  Q9VCU2
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Gaps

Score 31, DB 4; Length 1.-Pred. No. 3.3e+02; 0; Mismatches 1; Ind@31s

81.6%; 83.3%;

Conservative

PRT; 1275 AA

PRELIMINARY;

Created)

1273 AA; 145060 MW; A43DCE0EF4C72B39 CRC64;

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TISSUE-BRAIN;
MEDLINE-97349984; PubMed-9205841;
MEDLINE-97349984; PubMed-9205841;
Magase T., Ishikawa K., Nakajima D., Ohira M., Seki N., Miyijima N., Tanaka A., Kotani H., Nomura N., Ohara O.;
Tanaka A., Kotani H., Nomura N., Ohara O.;
"Prediction of the coding sequences of unidentified human genes. VII. The complete sequences of 100 new cDNA clones from brain which can code for large proteins in vitro.";
DNA Res. 4:141-150[1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi,
Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE 1275 AA; 145331 MW; 101FF1F66E056066 CRC64;
Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PS00626; RCC1_2; UNKNOWN_1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
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                                                    KIAA0349 (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro; IPR001841;
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Matches 5; Conserv
                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                               NCBI_TaxID=9606;
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                                                                            KIAA0349
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Gaps ; 0

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RESULT 13 093574

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Curran T.; 
 "A protein related to extracellular matrix proteins deleted in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRAIN-BALB/C; TISSUE-BRAIN;
MEDLINE=95375789; Pubmed=7647795;
MINIOENTE STRAIN STRAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TISSUE=CEREBELLUM;
MEDLINE=95231649; PubMed=7715726;
D'Arcangelo G., Miao G.G., Chen S.C., Soares H.D., Morgan J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   81.6%; Score 31; DB 11; Length 3461; 57.1%; Pred. No. 9.3e+02; Live 2; Mismatches 1; Indels
                                                                                                                                                                                                        Length 3460
SMART; SM00181; EGF; 1.
EGF-like domain; Glycoprotein.
SEQUENCE 3460 AA; 388399 MW; BB2C0BA415AB93C1 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SMART; SM00181; EGF; T.
EGF-like domain; Glycoprotein.
SEQUENCE 3461 AA; 387510 MW; 4131F3E84A9D4AE2 CRC64;
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"Reeler gene discrepancies.";
Nat. Genet. 11:12:13(1995).
EMBL; U04703; AAB91599.1;
EMBL; D63520; BAA09788.1;
EMBL; D63520; ReIn.
InterPro: IPR00561;
InterPro: IPR00260;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Last sequence update)
Last annotation update)
                                                                                                                                                                                                Score 31; DB 4; 1
Pred. No. 9.3e+02;
2; Mismatches 1
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PROSITE; PS01186; EGF_2; 6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE OF 2581-3461 FROM N.A. STRAIN-BALB/C; TISSUE-BRAIN; MEDLINE-96021025; Pubmed-7550305;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE OF 2581-3461 FROM N.A.
                                                                                                                                                                                                Query Match 81.6%;
Best Local Similarity 57.1%;
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-NOV-1996 (TrEMBLrel. 01, 01-JUN-1998 (TrEMBLrel. 06, 01-JMAR-2001 (TrEMBLrel. 16, REELIN (REELER PROTEIN).
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Nat. Genet. 10:77-83(1995).
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Best Local Similarity 57.15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               mouse mutant reeler.";
Nature 374:719-723(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mus musculus (Mouse)
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Q60841
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                                                                                                                                                                                                                                                                                                                                                Gallus gallus (Chicken).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
Gallus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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Bernier B., Goffinet A.M.;

"Comparative study of reelin in vertebrates.";

I Submitted (SEP-1998) to the EMBL/GenBank/DDBJ databases.

EMBL, AF090441; AAC3559.1; -...

InterPro; IPR000561; -...

InterPro; IPR000560; -...

Fram: PF00008: EGF; 5.

PR0STIE: PS01021; EGF: 1; UNKNOWN_7.

R PROSTIE: PS01186; EGF_1; UNKNOWN_7.

R SMART; SMO0181; EGF_2; 7.

R SMART; SMO0181; EGF; 1.

R EGF-1ike domain; Glycoprotein.
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Submitted (FEB-1997) to the EMBL/GenBank/DDBJ databases.
EMBL; U79716; AAC51105.1;
EMBL; GC00121; AAB46557.1;
InterPro; IPR000561;
InterPro; IPR002860;
InterPro; IPR002860;
InterPro; IPR002860;
InterPro; IPR002861;
InterPro; IPR00202861;
IPR002012; BGF, 5.
IPR0SITE; PS001022; EGF_1; UKNOWN_7.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 31; DB 13; Length 32
Pred. No. 8.6e+02;
2; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NON_TER 1 1 SEQUENCE 3209 AA; 361291 MW; 81A7B6676BCAA3D1 CRC64;
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Submitted (DEC-1996) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                               01-NOV-1998 (TrEMBLrel. 08, Created)
01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
EXTRACELLULAR REELIN (FRAGMENT)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-MAY-1997 (TrEMBLrel. 03, Created)
01-MAY-1997 (TrEMBLrel. 03, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
                                                                         PRT; 3209 AA
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Best Local Similarity 57.1%;
Matches 4; Conservative
                                                                         PRELIMINARY;
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P78509;

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RESULT 14 P78509

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Oy 2 QWAVXHI 8 ||||| || | Db 3418 QWALDHV 3424

Search completed: October 25, 2001, 11:27:45 Job time: 448 sec

us-09-630-333-7.rsp

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GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
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OM protein - protein search, using sw model

October 25, 2001, 11:28:29; Search time 40.36 Seconds (without alignments) 6.790 Million cell updates/sec Run on:

US-09-630-333-7 38

1 XQWAVXHI 8 Title: Perfect score: Sequence: BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

93435 seqs, 34255486 residues Searched:

l number of hits satisfying chosen parameters:

93435

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

SwissProt_39:* Database : Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

STIMMARTES

	SUMMARI ID ALYI_ALYOB BOMB_BOWA BOMB_BOWA BOMB_BOWA LITO_LITAU LITO_LITAU BOML_PSEGU RANA_RANPI WEUB_XENLA UL43_VZVD GYP6_YEAST HEX_ADEU1 HEX_ADEU1 HEX_ADEU1 HEX_ADEU1 HEX_ADEU1 HEX_ADEU1 HEX_ADEU1 HEX_ADEU1 HEX_ADEU1 HEX_ADEU1 HEX_ADEU1 HEX_ADEU1 HEX_ADEU1 HEX_ADEU1 HEX_ADEU1 HEX_ADEU1 HEX_ADEU1 HEX_ADEU1 HAPOUSE IHA_RAT CG23_YERST SWI6_KUUSE IHA_RAT CG33_YERST SWI6_KUUSE IHA_RAT CG33_YERST SWI6_KUUSE IHA_RAT CG33_YERST SWI6_KUUSE IHA_RAT CG33_YERST SWI6_KUUSE IHA_RAT CG33_YERST SWI6_KUUSE IHA_RAT CG33_YERST SWI6_KUUSE IHA_RAT CG33_YERST SWI6_KUUSE IHA_RAT CG33_YERST SWI6_KUUSE IHA_RAT CG33_YERST SWI6_KUUSE INA_RAT CG33_YERST SWI6_KUUSE INA_RAT CG33_YERST SWI6_KUUSE INA_RAT CG33_YERST SWI6_KUUSE INA_RAT CG33_YERST SWI6_KUUSE SWI6_KUUSE SWI6_KUUSE GRP_CKUUSE	SUMMARIES		Description	ALYOB P08944 alytes obst	30MVA P01296 bombina var	SOMOR P21591 bombina ori	LITAU P08945 litoria aur	P42991	RANPI P08950	ENLA P43443 xenop	7ZVD P09273	FEAST P32806 saccharomyc	DEM1 P48308 mouse adeno		P36854			P38340		009024	P38440		ECOLI P00855 escherichía				P0408		P17490	P3687	P24870		P23260	P09472 scylio	P08989
				Length	14	107	119	9	13	82	120	406	458	606	937	940	944	122	232	262	263	265	270	271	272	274	360	364	366	366	395	427	769	10	25	27
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Ouery Match Length 86.8 86.8 107 86.8 110 86.8 110 81.6 113 81.6 113 81.6 113 78.9 78.9 78.9 76.3 1122 76.3 1222 76.3 76.3 76.3 76.3 76.3 76.3 76.3 76.3	Match Len Match		Result	No.	П	7	m	4	5	9	7	æ (6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	56	27	28	29	30	31	32

P0125; Scr P318E; !ligato, m Q9ybE; copyrum p P4785; .wis aries P24393 tuttus norv P07492 homo sapien P2907 cudomonas O2232 tudomonas P26212 bacillus su P36184 entamocba h		AA.	date) update) .; Vertebrata; Euteleostos;	Endean R.; red amphibian specie from EUROMEDIN B/RANATENSIN	CARBOXYLIC ACID. 9666 CRC64;	DB 1; Length 14; 0.42; 1; Indels 0; Gaps 0;	o7 AA. date) update)), and ; Vertebrata; Euteleostc.mi; achia; Bombinatoridae; tratina
34 28 73.7 27 1 GRP_DIG 35 28 73.7 28 1 GRP_ALLMI 36 28 73.7 131 1 RS11_AERPE 37 28 73.7 134 1 GRP_SHEEP 39 28 73.7 147 1 GRP_HUMAN 40 28 73.7 148 1 GRP_HUMAN 41 28 73.7 197 1 YCBP_ENDE 42 28 73.7 250 1 AGLB_PENDE 43 28 73.7 250 1 AGLB_SCOLCO 43 28 73.7 276 1 SACT_BACSU 44 28 73.7 308 1 ACPI_ENTHI 45 28 73.7 361 1 IHA_TRIVU	ALIGNMENTS	SULT 1 YT_ALYOB ALYOB STANDARD; PRT; 14 P08944. 01-NOV-1988 (Rel. 09, Created)	. 28, Last sequence up . 37, Last annotation ans (Midwife toad). oa; Chordata; Craniata nia; Anura; Archeobatr	SEQU MEDL Ersp "Act Aust Comp	DR PFGALLI. DR PFGALLI. DR PFO2044; Bombesin; 1. DR PROSITE; PSO0257; BOMBESIN; 1. RW Bombesin family; Amidation. FT MOD_RES 14 14 AMIDATION. SQ SEQUENCE 14 AA; 1554 MW; D3C4E4D3AF129666 CRC64	Query Match 86.8%; Score 33; DB Best Local Similarity 71.4%; Pred. No. 0.4 Matches 5; Conservative 1; Mismatches Oy 2 QWAVXHI 8	BOMB_BOWVA 1D BOMB_BOWVA TO 101296; DT 21-JUL-1986 (Rel. 01, Created) DT 01-FEB-1991 (Rel. 17, Last sequence update) DF 01-FEB-1995 (Rel. 31, Last sequence update) DF 00-FEB-1995 (Rel. 31, Last annotation update) DF 00-BOMBESIN PRECURSOR. DF 00-BOMBESIN PRECURSOR. SOM Bombina variegata (Yellow-bellied toad), and OS Bombina wariegata (Fire-bellied toad). and OS Bombina satiagata (Fire-bellied toad). C Rukaryota; Matazoa; Chordata; Craniata; Vertebrata; OC Amphibia: Batrachia; Anura; Archeobatrachia; Bombin OX NCBI_TaxID-8348, 8345; RN [1] RP SEQUENCE FROM N.A. RP SEQUENCE ROM N.A. RP SEQUENCE ROM N.A. REDLINE=90242964; PubMed=2335218;

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EMBL; M55255; AAA48551.1; -.

InterPro; IPR000874; -.

PIR; A39261; A39261

-!- TISSUE SPECIFICITY: LOCALIZED TO THE CUTANEOUS GRANULAR GLANDS IN

GASTROINTESTINAL HORMONES.

THE SKIN AND THE BRAIN.
SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN

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                                                                                                                                                                            discoglossid frogs.";
Arch. Blochem. Blophys. 148:443-446(1972).
-!- FUNCTION: STIMULATION OF DNA REPLICATION ROLE IN INDUCTION OF PHYPOTHERMIA, STIMULATION OF DNA REPLICATION AND RELEASE OF MANY GASTROINTESTINAL HORMONES.
-!- SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
Richter K., Egger R., Kreil G.; "Molecular cloning of a cDNA encoding the bombesin precursor in skin
                                                                                                                                Anastasi A., Erspamer V., Bucci M.; "Isolation and amino acid sequences of alytesin and bombesin, two analogous active tetradecapeptides from the skin of European
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PYRROLIDONE CARBOXYLIC ACID.
AMIDATION (G-56 PROVIDE AMIDE GROUP).
9692B50600FAF618 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; A.2.1...,
PIR; A01564; BSTD.
PIR; 8010564; BSTDY.
PIR; S09095; S09095.
InterPro: IPR000874; -.
PFam; PF02044; Bombesin; 1.
PROSITE; PS00257; BOMBESIN; 1.
PROSITE; PS00257; Bombesin; 1.
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                                                                                               SPECIES-B.variegata, and B.bombina;
MEDLINE-72163516; PubMed-4537042;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            55 A
                                   variegata.";
262:353-355(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; X52447; CAA36686.1; -.
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55
42
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42
42
55
107 AA;
                                                                                SEQUENCE OF 42-55.
                                   Bombina
                                                 FEBS Lett.
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MOD_RES
SEQUENCE
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.; 0 Gaps ; 0 1; Length 107; 1; Indels 86.8%; Score 33; DB 71.4%; Pred. No. 2.9; Live 1; Mismatches Best Local Similarity 71.4 Matches 5; Conservative Query Match

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Amphibia; Batrachia; Anura; Archeobatrachia; Bombinatoridae; Bombina. NCBI_TaxID=8346; Bombina orientalis (Oriental fire-bellied toad). 01-MAY-1991 (Rel. 18, Created) 01-MAY-1991 (Rel. 18, Last sequence update) 15-JUL-1998 (Rel. 36, Last annotation update) BOMBESIN PRECURSOR. 119 AA STANDARD; BOMB_BOMOR BOMB_BOMOR

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Anastasi A., Montecucchi P.C., Angelucci F., Erspamer V., Endean R.; "Glu(OMe)3-litorin, the second bombesin-like peptide occurring in methanol extracts of the skin of the Australian frog Litoria aurea."; Experientia 33:1289-1289(1977).
                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                         AMIDATION (G-59 PROVIDE AMIDE GROUP). 3A3D84EA2445A4A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleoslumi,
Amphibia, Batrachia, Anura, Neobatrachia, Bufonoidea, Hylidae,
                                                                                                                                                                                                  Pfam; PF02044; Bombesin; 1.
PROSITE; PS00257; BOMBESIN; 1.
Bombesin family; Amidation; Cleavage on pair of basic residues;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE-75187011; PubMed-1140241;
Anastesi A., Erspamer V., Endean R.;
"Aminoacid composition and sequence of litorin, a bombesin-lik.
nonapeptide from the skin of the Australian leptodactylid frog
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                                                                                                                                                                                                                                                                                                                         DB 1; Length 119;
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Pfam; PF02044; Bombesin; 1.
PROSITE; PS00257; BOMBESIN; 1.
Bombosin family; Amidation, Methylation.
MOD_RES 1 PYRROLIDONE CARBOXYLIC ACID.
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37, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                        9 AA.
                                                                                                                                                                                                                                                                                                                      86.8%; Score 33; DB 71.4%; Pred. No. 3.2; ive 1; Mismatches
                                                                                                                                                                                                                                                               BOMBESIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE (METHYLATED VARIANT). MEDLINE=78003546; PubMed=908397;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Litoria aurea (Australian frog).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               09, Created)
                                                                                                                                                                                                                                                                                    13863 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Litoria aurea.";
Experientia 31:510-511(1975).
                                                                                                                                                                                                                                                                                                                                               5; Conservative
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45
58
119 AA;
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PIR; S07205; S07205.
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Best Local Similarity
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01-FEB-1994 (Rel.
15-DEC-1998 (Rel.
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MOD_RES
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us-09-630-333-7.rsp

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Query Match
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NEUB_XENLA
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MEDLINE-90287814; PubMed=2356157;
MEDLINE-90287814; C., de Biase D., Barra D., Bossa F.,
Simmaco M., Severini C., de Biase D., Espamer V.;
Roberts J.D., Melchiorri P., Erspamer V.;
"Six novel tachykinin- and bombesin-related peptides from the skin of the Australian frog Pseudophryne guntheri.";
Peptides 11:299-304(1990).
-!- SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
                                                                                                                                                                                                                 Pseudophryne guentheri (Frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Neobatrachia; Bufonoidea; Myobatrachidae;
                                                                   Gaps
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Ranidae; Rana.
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Krane I.M., Naylor S.L., Helin-Davis D., Chin W.W., Spindel E.R.;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                         81.6%; Score 31; DB 1; Length 13; 83.3%; Pred. No. 1;
                                               Score 31; DB 1; Length 9;
Pred. No. 9.3e+04;
Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                           PYRROLIDONE CARBOXYLIC ACID.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1; Indels
 METHYLATION (IN A VARIANT).
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D6DE0D24BD98C366 CRC64;
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Amphibia; Batrachia; Anura; Neobatrachia; Ranoidea;
                   D7CCC1E862CDC366 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-NOV-1988 (Rel. 09, Created)
01-NOV-1988 (Rel. 09, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
RANATENSIN PRECURSOR.
                                                                                                                                                                         01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
01-NOV-1995 (Rel. 32, Last annotation update)
BOWBESIN-LIKE PEPTIDE L (PG-L)
                                                                                                                                                       13 AA.
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           AMIDATION
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InterPro; IPR000874; -.
Pfam; PF03044; Bombesin; 1.
PROSITE; PS00257; BOMBESIN; 1.
                                                81.6%;
83.3%;
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2
9
1103 MW;
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                                                        Similarity 5; Conserv
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                                                                                                                                                                                                                                                        NCBI_TaxID=30349;
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6 QWAVGH 11
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2 QWAVGH 7
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P42991;
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P08950;
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Matches 5
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BOML_PSEGU
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RANA_RANPI
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"Molecular cloning of cDNAs encoding the human bombesin-like peptide neuromedin B. Chromosomal localization and comparison to cDNA: encoding its amphibian homolog ranatensin.";
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-!- FUNCTION: MAY BE A GROWTH FACTOR REQUIRED FOR THE HIGH BACKED SCELL DIVISION BNSUING AFTER FERTILIZATION, OR MAY HAVE A 1411-SECRETAGOGUE THAT THIGGERS THE RELEASE OF STORED COMPONE.
-!- TISSUE SPECIFICITY: BRAIN, INTESTINE, AND OVARIES AND EARLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AMIDATION (G-59 PROVIDE AMIDE GROUP). 09194FFD0E7436DE CRC64;
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-1- SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
                                                                                                                                                                                                                                                                -!- SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANALENSIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pfam; PF02044; Bombesin; 1.
PROSITE; PS00257; BOMBESIN; 1.
Bombesin family; Amidation; Cleavage on pair of basic residues;
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01-NOV-1995 (Rel. 32, Last sequence update)
01-NOV-1995 (Rel. 38, Last annotation update)
15-JUL-1999 (Rel. 38, Last annotation update)
NEUROMEDIN B PRECURSOR.
Xenopus laevis (African clawed frog).
Eukaryota; Metacoa: Chordata; Craniata; Vertebrata; Euteleoste Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae:
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MEDLINE=93028554; PubMed=1409705;
Wechselberger C., Kreil G., Richter K.;
"Isolation and sequence of a cDNA encoding the precursor of bombesin-like peptide from brain and early embryos of Xenopu
                                                                                                                                                                              Nakajima T., Tanimura T., Pisano J.J.;
"Isolation and structure of a new vasoactive polypeptide.";
Fed. Proc. 29:282-282(1970).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 31; DB 1; Length 82
Pred. No. 5.8;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     POTENTIAL.
                                                                                           J. Biol. Chem. 263:13317-13323(1988)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; M21552; AAA49533.1; -. PIR; B28945; B28945.
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47
58
58
9159 MW;
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Matches 5; Conservative
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NCBI_TaxID=8355;
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28
48
58
82 AA;
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SEQUENCE
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AMIDATION (G-55 PROVIDE AMIDE GROUP).
2CB146BA082A2442 CRC64;
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                                                                                                                                                             Pfan; PF02044; Bombesin; 1.
PROSITE; PS00257; BOMBESIN; 1.
Bombesin family; Amidation; Cleavage on pair of basic residues;
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0
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SUBCELLULAR LOCATION: MEMBRANE-ASSOCIATED OR TRANSMEMBRANE
                                                                                                                                                                                                                                                                                                                                                  78.9%; Score 30; DB 1; Length 120; 66.7%; Pred. No. 13;
                                                                                                                                                                                                                                                                                                                                                                                     1; Indels
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MEDLINE=86306657; PubMed=3018124;
Davison A.J., SCOLT J.E.;
"The complete DNA sequence of varicella-zoster virus.";
J. Gen. Virol. 67:1759-1816(1986).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          726DF7D084DE5387 CRC64;
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Herpesviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-MAR-1989 (Rel. 10, Created)
01-MAR-1989 (Rel. 10, Last sequence update)
01-DEC-1992 (Rel. 24, Last annotation update)
GENE 15 MEMBRANE PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   406 AA.
                                                                                                                                                                                                                                                                                                                                                                                    1; Mismatches
                                                                                                                                                                                                                                    POTENTIAL.
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Viruses; dsDNA viruses, no RNA stage;
Alphaherpesvirinae; Varicellovirus.
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Best Local Similarity
'Local 4, Conserve
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54
120 AA;
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QWAIGH 52
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P09273;
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MOD_RES
SEQUENCE
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UL43_VZVD
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                                                                                                                                                                                                                                               MEDLINE-93180913; PubMed-8441469; Strom M., Vollmer P., Tan T.J., Gallwitz D.; Ayest GTPase-activating protein that interacts specifically with member of the Ypt/Rab family."; Nature 361:736-739(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mouse adenovirus type 1 (MAV-1).
Tiruses; dabna viruses, no RNA stage; Adenoviridae; Mastadenovirus.
NCHL_TaxID=10530;
                                                                                                                                                                                                                                                                                                                                                                       Pohl T.M., Aljinovic G.;
Submitted (SEP-1995) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: STIMULATES SPECIFICALLY THE GTPASE ACTIVITY OF YPI6.
-!- SUBCELLULAR LOCATION: CYTOPLASMIC (PROBABLE).
                                                                                                                                         Saccharomyces cerevisiae (Baker's yeast).
Bukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetales; Saccharomycetales; Saccharomycetales; Saccharomycetales; Saccharomycetales; Saccharomyces.
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53814 MW; DDC21820E00EE06C CRC64;
                                                                    01-NOV-1995 (Rel. 32, Last sequence update) 01-NOV-1997 (Rel. 35, Last annotation update) GTPASE-ACTIVATING PROTEIN OF YPT6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HEX_ADEM1 STANDARD; PRT; 909 AA. P48308; 011839; 01-FEB-1996 (Rel. 33, Created) 01-FEB-1997 (Rel. 35, Last sequence update) 01-NOV-1997 (Rel. 35, Last annotation update)
                458 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        or send an email to license@isb-sib.ch)
                                                01-OCT-1993 (Rel. 27, Created)
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                                                                                                                          GYP6 OR YJL044C OR J1202
                STANDARD;
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SGD; S0003580; GYP6.
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Best Local Similarity
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6 QWAIDH 11
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                                                                  01-NOV-1995
01-NOV-1997
                GYP6_YEAST
P32806;
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GYP6_YEAST
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3 WAVXHI

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Gaps

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78.9%; Score 30; DB 1; Length 406; 66.7%; Pred. No. 42;

Mismatches

Conservative

Query Match Best Local Similarity Matches 4; Conserv

us-09-630-333-7.rsp

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2 QWAVXHI 8
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01-JUN-1994
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15-DEC-1998
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P36849;
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                                                Weber J.M., Cai F., Murali R., Burnett R.M.; "Sequence and structural analysis of murine adenovirus type 1 hexon."; J. Gen. Virol. 75:141-147(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                           Submitted (JAN-1997) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: THIS PROTEIN IS ONE OF THE STRUCTURAL PROTEINS IN THE VIRAL COAT AND IS SYNTHESIZED DURING LATE INFECTION.
-!- SUBUNIT: HOMOTRIMER (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pring-Akerblom P., Trijssenaar F.E.J., Adrian T.;
"Hexon sequence of adenovirus type 7 and comparison with other
serotrypes of subgenus B.";
Res. Virol. 146:383-388(1995).
-i- FUNCTION: THIS PROTEIN IS ONE OF THE STRUCTURAL PROTEINS IN THE
VIRAL COAT AND IS SYNTHESIZED DURING LATE INFECTION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Viruses; dsDNA viruses, no RNA stage; Adenoviridae; Mastadenovirus.
NCBI_TaxID=10519;
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                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 78.9%; Score 30; DB 1; Length 909; Best Local Similarity 71.4%; Pred. No. 90; Matches 5; Conservative 0; Mismatches 2; Indels
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01-JUN-1994 (Rel. 29, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
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                                     MEDLINE=94157453; PubMed=7509368;
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HEXON PROTEIN (LATE PROTEIN 2)
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            SEQUENCE FROM N.A.
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P36851;
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HEX_ADE07
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MEDLINE=95407102; PubMed=7676636;
Pring-Akerblom P., Trijssenaar J., Adrian T.;
Pring-Akerblom P., Trijssenaar J., Adrian T.;
Sequence characterization and comparison of human adenovirus subgenus B and E hexons.";
Virology 21:2132-2332-2336(1995).

-i- FUNCTION: THIS PROTEIN IS ONE OF THE STRUCTURAL PROTEINS IN THI.
VIRAL COAT AND IS SYNTHESIZED DURING LATE INFECTION.
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PIR; S39301; S39301.

HSSP; P03277; 1DHX.

InterPro; IPR000736; -.

Pfam; PF01065; Adeno_hexon; 1.

Coat protein; Hexon protein; Late protein.

SEQUENCE 937 AA; 105839 MW; 7C6348A51BF5C42D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pfam: PF01065; Adeno_hexon; 1.
Coat protein; Hexon protein; Late protein.
SEQUENCE 940 Aa; 105501 MW; E5A3493E68236D15 CRC64;
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Pred. No. 92;
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Last annotation update)
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(Rel. 37, Last sequence update)
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Mismatches
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HSSP; P03277; IDHX.
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ilarity 71.4%;
Conservative
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illarity 71.4%;
Conservative
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InterPro; IPR000736; -.
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Best Local Similarity
Matches 5; Conserv
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Best Local Similarity
Matches 5; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human adenovirus
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                                                                                                                                                                                                                                                                                    Pring-Akerblom P.;
Submitted (SEP-1998) to the EMBL/GenBank/DDBJ databases.
--- FUNCTION: THIS PROTEIN IS ONE OF THE STRUCTURAL PROTEINS IN THE VIRAL COAT AND IS SYNTHESIZED DURING LATE INFECTION.
                                                  Human adenovirus type 3.
Viruses; dsDNA viruses, no RNA stage; Adenoviridae; Mastadenovirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
STRAIN=K12 / MG1655;
MEDLINE=97426617; PubMed=9278503;
Bjattner F.R., Plunkett G. III, Bloch C.A., Perna N.T., Burland V.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=94341562; PubMed=8063098;
Christie G.E., White T.J., Goodwin T.S.;
"A merR homologue at 74 minutes on the Escherichia coli genome.";
Gene 146:131-132(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bacteria; Proteobacteria; gamma subdivision; Enterobacteriaceae;
Escherichia.
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                                                                                                                                    STRAIN=ISOLATE GB;
MEDLINE-95407102; PubMed=7676636;
Pring-Akerblom P., Trijssenaar J., Adrian T.;
"Sequence characterization and comparison of human adenovirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-JUN-1994 (Rel. 29, Created)
01-JUN-1994 (Rel. 29, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
HYPOTHETICAL 13.9 KDA PROTEIN IN MSCL-RPLQ INTERGENIC REGION.
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InterPro; IPR000736; -.
Ffam; PF01065; Adeno_hexon; 1.
Coat protein; Hexon protein; Late protein.
SEQUENCE 944 AA; 106088 MW; B779C679417F49D9 CRC64;
15-DEC-1998 (Rel. 37, Last annotation update) HEXON PROTEIN (LATE PROTEIN 2).
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Virology 212:232-236(1995)
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Matches 5; Conserv
                                                                                                                    SEQUENCE FROM N.A.
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                                                                                   NCB1_TaxID=45659;
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P36677;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Doignon F., Biteau N., Crouzet M., Aigle M.; "The complete sequence of a 19,482 bp segment located on the right arm of chromosome II from Saccharomyces cerevisiae.";
Riley M., Collado-Vides J., Glasner J.D., Rode C.K., Mayhew G.F Gregor J., Davis N.W., Kirkpatrick H.A., Goeden M.A., Rose D.J., Mau B., Shao Y.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Saccharomyces cerevisiae (Baker's yeast).
Eukaryota: Fungi: Ascomycota: Saccharomycotina: Saccharomycetes;
Saccharomycetales: Saccharomycetaceae: Saccharomyces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     ..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-0CT-1994 (Rel. 30, Created)
01-0CT-1994 (Rel. 30, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
HYPOTHETICAL 26.11 KDA PROTEIN IN POP4-SHMI INTERGENIC REGION.
                                                                                                                                                                                                                                                                                                                                                                                                              DB 1; Length 122;
21;
                                                        "The complete genome sequence of Escherichia coli K-12."; Science 277:1453-1474(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               76.3%; Score 29; DB 1; Length 232; 57.1%; Pred. No. 39; ive 1; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                           EMBL; AE000407; AAC76318.1; -.
EcoGene; EG11970; YndN.
Hypothetical protein.
SEQUENCE 122 AA; 13945 MW; F404919EA6590DF3 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          66699F37B0013088 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                            76.3%; Score 29; DB
71.4%; Pred. No. 21;
iive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Yeast 9:189-199(1993).
-!- SIMILARITY: TO S.POMBE SPAC16E8.14C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN=S288C;
MEDLINE=93220397; PubMed=8465606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hypothetical protein.
SEQUENCE 232 AA; 26068 MW;
                                                                                                                                                                                                                                                             EMBL; L29458; AAA24774.1; -. EMBL; U18997; AAA58090.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; X70529; CAA49926.1; -. EMBL; Z36130; CAA85224.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity 71.4 les 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S0000465; YBR261C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
Matches 4; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              YBR261C OR YBR1729.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S32963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=4932;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6 QWAERHI 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 QWAVXHI 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PIR; S32963;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   YB9H_YEAST
P38340;
                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 15
YB9H_YEAST
                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Loca
Matches
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2 QWAVXHI 8 || || : 139 QWCVGHL 145 Oy Db

Search completed: October 25, 2001, 11:28:29 Job time: 477 sec

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GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
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OM protein - protein search, using sw model

Run on:

October 25, 2001, 11:25:21 ; Search time 76.25 Seconds (without alignments) 7.992 Million cell updates/sec

US-09-630-333-7 38 1 XQWAVXHI 8 Title: Perfect score: Sequence:

Scoring table:

BLOSUM62 Gapop 10.0 , Gapext 0.5

219241 al number of hits satisfying chosen parameters:

219241 seqs, 76174552 residues

Searched:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

PIR_68:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

	Description	fire	bombesin precursor	bombesin precursor	glucan endo-1,3-be	litorin I - Austra	bombesin-like pept	ranatensin precurs	cysteine proteinas	reelin precursor -	bombesinlike pepti		ATP synthase A cha	hypothetical prote	gene 15 protein -	GTPase-activating	cytochrome P450 (E	pyruvate oxidase h	reverse transcript	hexon protein - hu	polyprotein - barl	hypothetical prote	Н	hypothetical prote						
SUMMARIES	ID	BSTD				S07204	A60409				A47201							G69769									T1658	H8337	1678	B85994
	DB	Н	Н	7	7	~	7																							
	Length	14	107	119	453	6	13	82	309	3461	120	174	289	353	406	458	505	574	574	936	937	937	940	942	1041	1213	13055	95	122	$^{\circ}$
dР	Query Match				84.2		81.6							78.9						78.9	78.9						8		9	76.3
	Score	33	33	33	32	31	31	31	31	31	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	29	29	29
	Result No.		7	3	4	2	9	,	80	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29

hypoth	hypothetical prote	transfer protein B	hypothetical profe	hypothetical prote	hypothetical prote	H+-transporting AT	H+-transporting AT	ATP Synthase F0, A	H+-transporting AT	hypothetical pr	H+-tran-port :: 1 - 1	H+-transporting Al	lipopolysaccharide	hypothetical prote	MYB-related transc
E84451	A75605	D53304	H70518	S32963	T48787	A64072	806076	B82035	LWEC6	A86060	B84930	E81025	F82558	B72511	T17027
7	7	~	~	7	7	Н	7	7	7	7	~	7	7	7	~
165	183	188	215	232	256	262	270	270	271	271	274	288	325	327	357
76.3	76.3	76.3	76.3	76.3	76.3	76.3	76.3	76.3	76.3	76.3	76.3	76.3	76.3	76.3	76.3
29	59	59	58	59	59	59	58	59	59	53	53	58	59	59	29
30	31	32	33	34	35	36	37	38	39	40	4.1	42	43	44	45

ALIGNMENTS

RESULT BSTD

Dombesin - fire-bellied toad C;Species: Bombina bombina (fire-bellied toad) C;Date: 13-Jul-1981 #sequence_revision 13-Jul-1981 #text_change 20.Mar-1998 C;Accession: A01564 R;Anastash, A.; Exspaner, V.; Bucci, M. Arch. Biochem. Biophys. 148, 443-446, 1972 A;Title: Isolation and amino acid sequences of alytesin and bombesin, two analomatic and sequences of alytesin and bombesin, two analomatic A;Reference number: A01564, MUID:72163516 A;Molecule type: protein A;Residues: 1-14 < AND. C;Superfamily: gastrin-releasing peptide C;Keywords: amidated carboxyl end; cutaneous gland; hormone; neuropeptide; py; F;L/Modified site: pyricalidone carboxylic acid (Gln) #status expriniental F:14/Modified site: amidated carboxyl end (Mat) #status exprinental	
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Gaps . 0 Score 33; DB 1; Length 14; Pred. No. 0.85; 1; Mismatches 1; Indels Query Match
Best Local Similarity 71.4%;
Matches 5; Conservative

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7 QWAVGHL 13 2 QWAVXHI 8 qq ò

RESULT

skin of

. 2000

Doublesin precursor - yellow-bellied toad
C; Species: Bombina variegata (yellow-bellied toad)
C; Species: Bombina variegata (yellow-bellied toad)
C; Date: 31-Dec-1991 #sequence_revision 01-Dec-2000 #text_chunge
C; Date: 35-35; B01564; A01564
R; Richter, K.; Egger, R.; Kreal, G.
A; Title: Molecular cloning of a cDNA encoding the bombesin precursor in skun A; Reference number: S09095; MUD: 90242964
A; Accession: S09095
A; Molecule type: mRNA
A; Residuas: 1-107 < RIC>
R; Anastasi, A.; Erspamer, V.; Bucci, M.
A; Residuas: Blochem. Blophys. 148, 443-446, 1972
A; Title: Isolation and amino acid sequences of alytesin and bombesin, t unday A; Reference number: A01564; MUD: 72163516

11::1

A; Molecule type: protein
A; Residues: 42-55 < ANA>
C; Superfamily: ranatensin
C; Superfamily: ranatensin
C; Keywords: amidated carboxyl end; cutaneous gland; hormone; neuro: ptido; p...
F;1-24/Domain: signal sequence #status predicted <SIG>
F;25-41/Domain: amino-terminal propeptide #status predicted <PRO>

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i 1; 1111:1921 (1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Dembesin-like peptide L - frog (Pseudophryne guentheri)
C.Species: Pseudophryne guentheri
C.Species: 30-Jan-1993 #sequence_revision 30-Jan-1993 #text_change 18-Aug-2000
C.Accession: A60409
R.Simmaco, M.; Severini, C.; De Biase, D.; Barra, D.; Bossa, F.; Roberts, J.D.; J.
Peptides 11, 299-304, 1990
A.Fitle: Six novel tachykinin- and bombesin-related peptides from the skin of the A.Reference number: A60409; MUID:90287814
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C; Accession: B28945
R; Krane, I.M.; Naylor, S.L.; Helin-Davis, D.; Chin, W.W.; Spindel, E.R.
J. Biol. Chem. 263, 13317-13323, 1988
A; Title: Molecular cloning of cDMAs encoding the human bombesin-like peptide
A; Reference number: A92667; MuID:88330837
A; Accession: B28945
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Molecule type: protein
A; Residues: 1-13 <SIM>
C; Superfamily: unassigned animal peptides
C; Keywords: amidated carboxyl end; hormone; neuropeptide; pyroglutamic acid
E; 1, Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
E; 13, Modified site: amidated carboxyl end (Met) #status experimental
                                                                                     C.Species: Litoria aurea
C.Date: 12-Feb-1993 #sequence_revision 12-Mar-1993 #text_change 18-7....-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C;Species: Rana pipiens (northern leopard frog)
C;Date: 30-Jun-1989 #sequence_revision 30-Jun-1989 #text_change 24-Sep-1999
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O
                                                                                                                                                                                                                                                                                                                                                                               C:Keywords: amidated carboxyl end; neuropeptide; pyroglutamic actu
F:1/Modified site: pyrrolidone carboxylic acid (Gln) #status experi
F:9/Modified site: amidated carboxyl end (Met) #status experimental
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A; Residues: 1-82 <KRA>
A; Cross-references: GB:M21552; GB:J03948; NID:g213693; PIDN:AAA49:
C; Superfamily: ranatensin
C; Keywords: neuropeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 31; DB 2; 1
Pred. No. 2.2e+05;
0; Mismatches 1;
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Pred. No. 2;
0; Mismatches
                                                            litorin I - Australian tree frog (Litoria aurea)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ranatensin precursor - northern leopard frog
                                                                                                                                                                                                                                                                                                                                                      C; Superfamily: gastrin-releasing peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 81.6%;
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83.3%;
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Best Local Similarity
'Loca' 5; Conservē
                                                                                                                                                                                                                                                                                                       A; Molecule type: protein A; Residues: 1-9 <ANA>
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Best Local Similarity
Matches 5; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |||| |
6 QWAVGH 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |||| | | 2 QWAVGH 7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Journal endo-1,3-beta-D-glucosidase (EC 3.2.1.39) [imported] - garden pea G:Species: Pisum sativum (garden pea)

Le: 21-Jul-12000 #sequence_revision 21-Jul-2000 #text_change 02-Sep-2000

Lession: T50645

WrBuchner, P.; Wuilleme, S.; Boutin, J.P.; Rochat, C.

Submitted to the BMBL Data Library, November 1999

A;Reference number: 225152

A;Reference number: 225152
F;42-55/Product: bombesin #status experimental <MAT>
F;56-107/Domain: carboxyl-terminal propeptide #status predicted <CPT>
F;42/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status experimen
F;55/Modified site: amidated carboxyl end (Met) (amide in mature form from following 9ly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Rispindel, E.R.; Gibson, B.W.; Reeve Jr., J.R.; Kelly, M. Proc. Natl. Acad. Sci. U.S.A. 87, 9813-9817, 1990
A; Title: Cloning of cDNAs encoding amphibian bombesin: evidence for the relationship bet A; Reference number: A39261; MUID:91088602
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        T.Species: Bombina orientalis
te: 18-Oct-1991 #sequence_revision 18-Oct-1991 #text_change 24-Sep-1999
cession: A39261
                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Status: preliminary
A; Molecule type: mRNA
A; Molecule type: mRNA
A; Residues: 1-119 <SPID
A; Cross-references: GB:M55255; NID:g211016; PIDN:AAA48551.1; PID:g211017
C; Superfamily: ranatensin
C; Keywords: neuropeptide
                                                                                                                                                                                                                       ;
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                                                                                                                                                                   86.8%; Score 33; DB 1; Length 107, 71.4%; Pred. No. 6.2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 119
                                                                                                                                                                                                                       1; Indels
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A;Cross-references: EMBL:AJ251646; PIDN:CAB85903.1
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 32; DB 2
Pred. No. 41;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 33; DB
Pred. No. 6.9;
                                                                                                                                                                                                                       1; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                  bombesin precursor - Bombina orientalis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A,Gene: gns2
C,Superfamily: beta-1,3-glucanase
C,Keywords: glycosidase; hydrolase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    86.8%;
71.4%;
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ilarity 71.4%;
Conservative
                                                                                                                                                                                           Best Local Similarity 71.4
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 86.8
Best Local Similarity 71.4
Matches 5; Conservative
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Best Local Similarity
Than 5; Conserv?
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48 QWAVGHL 54
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51 QWAVGHL 57
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Riwechselberger, C.; Kreil, G.; Richter, K. Proc. Natl. Acad. Sci. U.S.A. 89, 9819-9822, 1992
A; Fitle: Isolation and sequence of a cDNA encoding the precursor of a bombesinle. A; Reference number: A47201; MUID:93028554
A; Accession: A47201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          submitted to the Protein Sequence Database, January 2000
A;Reference number: 223011
A;Reference number: 23011
A;Reference number: 23011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          : ; Hicke.
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APP synthase A chain PA5560 [imported] - Pseudomonas aeruginosa (strain PAUI))
C.Speciae: Pseudomonas aeruginosa
C.Speciae: Pseudomonas aeruginosa
C.Date: 15-Sep-2000 #sequence_revision 15-Sep-2000 #text_change 31-1----20.:
C.Accession: A82953
R.Stover, C.K.; Pham, X.Q.; Erwin, A.L.; Mizoguchi, S.D.; Warretter : ; Hicki, adman, S.; Yuan, Y.; Brody, L.L.; Coulter, S.N.; Folger, K.R.; Ku: ...; Larbic.; Lory, S.; Olson, M.V.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C.Species: Arabidopsis thaliana (mouse-ear cress)
C.Date: 04-Feb-2000 #sequence_revision 04-Feb-2000 #text_change 04-Feb-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ( B 5 B 1, I :
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                                                                                                                                                                                            bombesinlike peptide - African clawed frog
C;Species: Xenopus laevis (African clawed frog)
C;Date: 21-Sep-1993 #sequence_revision 18-Nov-1994 #text_change U4
C;Accession: A47201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Residues: 1-120 <WEC>
A; Note: sequence inconsistent with the nucleotide translation
A;Note: sequence extracted from NCBI backbone (NCBIN:115857, NCb:)
C; Superfamily: ranatensin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 174;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Cross-references: EMBL:AL137082
A;Experimental source: cultivar Columbia; BAC clone F14P22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    hypothetical protein F14P22.40 - Arabidopsis thaliana
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Pred. No. 41;
2; Mismatches
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1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 30;
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66.7%;
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57.1%;
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Best Local Similarity 57.1%
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Best Local Similarity 66.7
Matches 4; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Introns: 90/1; 126/3; 166/2
A; Note: F14P22.40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Molecule type: DNA
A; Residues: 1-174 <DAN>
                                                        3418 QWALDHV 3424
                                                                                                                                                                                                                                                                                                                                                                                                                         A; Status: preliminary
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47 EWAVDHL 53
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47 QWAIGH 52
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                            2 QWAVXHI
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C; Species: Mus musculus (house mouse)
C; Date: 06-Dec-1996 #sequence_revision 06-Dec-1996 #text_change 11-Jan-2000
C; Accession: SS8870; S71844; 149297
C; Accession: SS8870; S71844; 149297
A; Tango, G.S. Mao, G.G.; Chen, S.C.; Soares, H.D.; Morgan, J.I.; Curran, T. Hreangelo, G.; Mao, G.G.; Chen, S.C.; Soares, H.D.; Morgan, J.I.; Curran, T. A; T19-723, 1995
A; Title: A protein related to extracellular matrix proteins deleted in the mouse mutant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Reference number: 14929; MUID:95231649
A; Accession: 558870
A; Status: nucleic acid sequence not shown
A; Residues: 1-3461 < DAR>
A; Cross-references: EMBL:U24703; NID:9902486; PID:9902487
A; Residues: 1-3464
A; Accession: S71844
A; Accession: S71844
A; Molecule type: mRNA
A; Residues: 1-215, 'T, '217-1905, 'S', 1907-3355, 'V', 3357-3391, 'N', 3393-3461 < DAZ>
A; Residues: 1-215, 'T, 'Z17-1905, 'S', 1907-3355, 'V', 3357-3391, 'N', 3393-3461 < DAZ>
A; Cross-references: EMBL:U24703; NID:9902486; PID:9902487
C; Superfamily: unassigned EGF-related proteins; EGF homology
F; 217 Domain: signal sequence #status predicted < SIG>
F; 217 Domain: signal sequence #status predicted < MAT>
F; 1769-1795/Domain: EGF homology < EGF>
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S41427
Cysteine proteinase (EC 3.4.22.-) CP1 precursor - Trichomonas vaginalis
Cyspeines: Trichomonas vaginalis
C; Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 04-Feb-2000
C; Accession: S41427
R; Mailinson, D.J.
A; Reference number: S41425
A; Reference number: S41425
A; Accession: S41425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ross-references: EMBL:X77218; NID:9452291; PIDN:CAA54435.1; PID:9452292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
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C.Genetics:
C.Genetics:
A.Gene: CP1
C.Superfamily: papain
C.Keywords: cysteine proteinase; hydrolase
F:1-89/Domain: signal sequence #status predicted <SIG>F:90-309/Product: cysteine proteinase CP1 #status predicted
F:114,254,274/Active site: Cys, His, Asn #status predicted
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2; Length 309;
                       DB 2; Length 82;
12;
                                                                        1; Indels
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                       Score 31; DB 2
Pred. No. 12;
0; Mismatches
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Pred. No. 45;
0; Mismatches
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                       83.3%;
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Ouery Match
Best Local Similarity
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Best Local Similarity
Matches 4; Conserv
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sidues: 1-309 <MAL>
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Best Local Similarity
Matches 5; Conserv
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51 QWAVGH 56
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A; Molecule type: DNA
A; Realdues: 1-458 < (700)
A; Residues: 1-458 < (700)
A; Cross-references: EMBL: Z49319; NID: g1008172; PIDN: CAA89335.1; FIL: 1100817; HIF A; Strom, M.; Vollmer, P.; Tan, T.J.; Gallwitz, D.
Nature: 361, 736-739; J1993
A; Title: A yeast GTPase-activating protein that interacts specifically with a membar A; Reference number: S30061; MUID: 93180913
                                                                                                                                                                                                                                                                 N'Alternate names: protein GYP6 - yeast (Saccharomyces cerevisiae)
N'Alternate names: protein J1202; protein YJL044c
C; Species: Saccharomyces cerevisiae
C; Date: 08-Jul-1995 #sequence_revision 08-Sep-1995 #text_change "1 Mil-2000
C; Accession: 556816; 330061
R; Pohl, T.M.; Aljinovic, G.
submitted to the Protein Sequence Database, September 1995
A; Reference number: 556793
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Molecule type: DNA
A; Residues: 1-412, 'L', 414-458 <STR>
A; Cross-references: EMBL:X68506; NID:g441264; PIDN:CAA48518.1; PID: (2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Cross-references: SGD:S0003580; MIPS:YJL044c
A;Map position: 10L
C;Superfamily: Saccharomyces cerevisiae GTPase-activating protein 0.016
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                       Length 406;
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Pred. No. 1.1e+02;
1; Mismatches 1; Indels
                     DB 1;
95;
                                                                    Mismatches
                     Score 30;
Pred. No.
                  78.98;
66.78;
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66.78;
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Best Local Similarity 66.7
Matches 4; Conservative
                  Query Match
Best Local Similarity
Matches 4; Conserv
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QWAIDH 11
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Nature 406, 959-964, 2000
A;Title: Complete genome sequence of Pseudomonas aeruginosa PAO1, an opportunistic pathch; Reference number: A82950; MUID:20437337
A;Reference number: A82953
A;Status: preliminary
A;Molecule type: DNA
A;Molecule type: DNA
A;Residues: 1-289 <<pre>A;Cross-references: GB:AE004967; GB:AE004091; NID:q9951884; PIDN:AAG08945.1; GSPDB:GN001
C;Genetics:
A;Gene: atpB; PA5560
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                hypothetical protein F59G1.4 - Caenorhabditis elegans
C;Species: Genorhabditis elegans
C;Species: Genorhabditis elegans
C;Date: 29-Oct-1999 #sequence_revision 29-Oct-1999 #text_change 21-Jan-2000
C;Accession: T34312
R;Latreille, P.
Submitted to the EMBL Data Library, April 1996
A;Reference number: 221504
A;Reference number: 221504
A;Accession: T34312
A;Accession: T34312
A;Accession: T3332; PIDN:AAC71158.1; GSPDB:GN00020; CESP:F59G1.4
A;Experimental source: strain Bristol N2; clone F59G1
                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Introns: 23/1; 47/2; 83/3; 114/3; 151/1; 187/2; 229/3; 257/3; 316/1
C;Superfamily: Caenorhabditis elegans hypothetical protein F59G1.4
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68;
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                                                                                                                                                                                                                                                                                                                                           Score 30;
Pred. No. 6
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78.9%; 83.3%;

Best Local Similarity 83.3 Matches 5; Conservative

Query Match

3 WAVXHI 8

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Search completed: October 25, 2001, 11:25:21 Job time: 334 sec

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1; Indels

2; Mismatches

Ouery Match 78.9 Best Local Similarity 57.1 tches 4; Conservative

A; Gene: CESP: F59G1.4

A; Map position: 2

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RESULT WZBE15

2 QWAVXHI 8

Gispecies: human herpesvirus 3
Cispecies: human herpesvirus 3, varicella-zoster virus
Cispecies: human: F27342
Ribavison, A.J.; Scott, J.E.
J. Gen. Virol. 67, 7159-1816, 1986
A.FReference number: A27345; MUID:86306657
A.FReference number: A27345; MUID:86306657
A.Molecule type: DNA
A.Residues: 1-406 < DAV>

A;cross-references: EMBL:X04370; NID:g59989; PIDN:CAA27898.1; PID:g60004 C;Genetics:

A;Gene: 15 C;Superfamily: varicella-zoster virus gene 15 protein

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Sequence 11, Appl Sequence 9, Appli Patent No. 5217955 Sequence 1, Appli Sequence 2, Appli Sequence 4, Appli Sequence 9, Appli Sequence 10, Appli Sequence 11, Appli Sequence 12, Appli Sequence 12, Appli Sequence 12, Appli Sequence 21, Appli Sequence 22, Appli Sequence 23, Appli Sequence 24, Appli Sequence 24, Appli Sequence 24, Appli Sequence 25, Appli Sequence 25, Appli Sequence 25, Appli Sequence 26, Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 12, Appl
Patent No. 5217955
                                                               Search time 64.17 Seconds (without alignments) 2.567 Million cell updates/sec
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Patent N
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1: /cgn2_6/ptodata/2/iaa/5A_COMB.pep:*
2: /cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
3: /cgn2_6/ptodata/2/iaa/6A_COMB.pep:*
4: /cgn2_6/ptodata/2/iaa/6B_COMB.pep:*
5: /cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*
6: /cgn2_6/ptodata/2/iaa/pcayCOMB.pep:*
GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd
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5217955-14
5217955-15
5217955-22
US-08-168-390-11
US-08-37-127-9
5217955-34
US-07-619-747B-1
US-07-619-747B-2
US-07-619-747B-4
US-07-619-747B-10
US-07-619-747B-10
US-07-619-747B-10
US-07-619-747B-11
US-07-619-747B-15
US-07-619-747B-23
US-07-619-747B-23
US-07-619-747B-24
US-07-619-747B-25
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5217955-35
5217955-36
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Maximum Match 100%
Listing first 45 summaries
                                             protein search, using sw model
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length: 2000000000
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Match Length
                                                                   October 25,
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/note= "The amino-terminal residue comprises one of several chemical end caps."

LOCATION: 1 OTHER INFORMATION: OTHER INFORMATION: FEATURE: /note= "The alanine at position
is dextrorotatory alanine."

NAME/KEY: Modified-site LOCATION: 6 OTHER INFORMATION: /note OTHER INFORMATION: is de FEATURE:

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Best Local Similarity
Matches 5; Conserv
                                       RESULT 4
5217955-13
;Patent No. 5217955
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5217955-15
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TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG
OF BOMBESIN, GRP, LITORIN OR NEUROMEDIN
NUMBER OF SEQUENCES: 4.2
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/520,225
FILING DATE: 09-MX-1990
PRIOR APPLICATION NUMBER: 440,039
FILING DATE: 21-NOV-1989
APPLICATION NUMBER: 408,125
FILING DATE: 15-SEP-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 3
5217955-36
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                                                             OTHER INFORMATION: /note= "The carboxy-terminal of the INFORMATION: residue comprises an ethyl ester." US-08-168-390-12
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                                                                                                                                                                                                                                         89.5%; Score 34; DB 1; Length 8; 71.4%; Pred. No. 1.5e+05; Live 1; Mismatches 1; Indels
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Pred. No. 1.5e+05;
1; Mismatches 1;
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Best Local Similarity 71.4%;
Matches 5; Conservative
NAME/KEY: Modified-site
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Matches 5; Conservative
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Best Local Similarity 71.4
Matches 5; Conservative
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2 QWAVAHL 8
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5217955-35
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APPLICANT: 030 ANTHUR E.; MOREAU, JACQUES-PIERRE
TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG
FOR BOMBESIN, GRY. LITTORIN OR NEUROMEDIN
NUMBER OF SEQUENCES: 42
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/520,225
FILING DATE: 09-MAY-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 440,039
FILING DATE: 21-NOV-1989
FILING DATE: 11-NOV-1989
FILING DATE: 11-SEP-1989
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Patent No. 5217955

TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG

OF BOWBESIN, GRP, LITORIN OR NEUROMEDIN

NUMBER OF SEQUENCES: 42

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/520,225

FILING DATE: 09-MAY-1990

PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 34; DB 6; Length 9;
pred. No. 1.5e+05;
1; Mismatches 1; Indels
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APPLICATION NUMBER: US/08/520,225
FILING DATE: 09-MAY: 1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 440,039
FILING DATE: 21-NOV-1989
APPLICATION NUMBER: 408,125
FILING DATE: 15-SEP-1989
SEQ ID NO:14:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: 440,039
FILING DATE: 21-NOV-1989
APPLICATION NUMBER: 408,125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 89.5%;
Best Local Similarity 71.4%;
Matches 5; Conservative 1
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71.4%;
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US-08-168-390-11
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Patent No. 5620955
EMBRAL INFORMATION:
APPLICANT: Knight, Martha
APPLICANT: Takahashi, Kazayuki
APPLICANT: Chandrasekhar, Bhaskar
ATTLE OF INVENTION: Bombesin/Gastrin Releasing Peptide Antagonists
NUMBER OF SEQUENCES: 16
                                                                                                                                                                                                                                                                                     RESULT 7
5217955-22
; Patent No. 5217955
; APPLICANT: aBOGDEN, ARTHUR E.; MOREAU, JACQUES-PIERRE
TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG
MOMBER OF SEQUENCES: 4
CURRENT APPLICATION DATA:
CURRENT APPLICATION NUBER: US/08/520,225
FILING DATE: 09-MAY-1990
; APPLICATION NUBER: 440,039
; FILING DATE: 21-NOV-1989
; APPLICATION NUBER: 408,125
; FILING DATE: 15-SEP-1989
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                                                                                                                 Score 34; DB 6; Length 9; Pred. No. 1.5e+05;
                                                                                                                                                       1; Indels
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/168,390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CORRESPONDENCE ADDRESS:
ADDRESSE: Sterne, Kessler, Goldstein & Fox STREET: 1100 New York Avenue, Suite 600 CITY: Washington STAFE: DC COMPRY: USA ZIP: 20005
                                                                                                                                                       1; Mismatches
                                                                                                                 89.5%;
71.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATTORNEY/AGENT INFORMATION:
NAME: Goldstein, Jorge A.
REGISTRATION NUMBER: 29,0
FILING DATE: 15-SEP-1989
                                                                                                               Query Match 89.5
Best Local Similarity 71.4
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Herewith
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Best Local Similarity
Matches 5; Conserv
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                                                                                                                                                                                           2 QWAVXHI 8
                                                                                                                                                                                                                   1||| |:
2 QWAVAHL 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 QWAVXHI 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 QWAVAHL 8
                 ; SEQ ID NO:15:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-08-168-390-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQ ID NO:22
                                                     5217955-15
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/note= "The amino-terminal residue comprises one of several chemical \psi_{\rm th}
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Pred. No. 1.5e+05;
"..matches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                               /note= "The carboxy-terminal
residue comprises an ethyl ester."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY: U.S.A.
ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: IBM PS/2 Model 502 or 55SX
OPERATING SYSTEM: IBM P.C. DOS (Version 3.30)
SOFTWARE: MOZDEFECT (Version 5.0)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/337,127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Coy, David H.
APPLICANT: Moreau, Jacques-Pierre
APPLICANT: Kim, Sun H.
TITLE OF INVENTION: OCTAPEPTIDE BOMBESIN
TITLE OF INVENTION: ANALOGS
UNUMBER OF SEQUENCES: 11
CORRESPONDENCE ADDRESS:
REFERENCE/DOCKET NUMBER: 0871.0040001
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 371-2600
TELEFAX: (202) 371-2540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLASSIFCATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/779,039
FILING DATE: 10/18/31
APPLICATION NUMBER: 07/502,438
FILING DATE: 03/30/90
APPLICATION NUMBER: 07/397,169
FILING DATE: 08/21/89
APPLICATION NUMBER: 07/376,555
FILING DATE: 07/07/89
APPLICATION NUMBER: 07/376,555
FILING DATE: 07/07/89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE: 12/09/88
APPLICATION NUMBER: 07/257,998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE: 03/02/89
APPLICATION NUMBER: 07/282,328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-08-337-127-9; Sequence 9, Application US/08337127; Patent No. 5877277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADDRESSEE: Fish & Richardson STREET: 225 Franklin Street
                                                      TELEFAX: (202) 371-2540
TELEX: 248636 SSK
INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
LENGTH: 8 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         86.8%;
ilarity 71.4%;
Conservative 1
                                                                                                                                                                                                                                            NAME/KEY: Modified-site
                                                                                                                                                                                                                                                                                                                                                    NAME/KEY: Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Massachusetts
                                                                                                                                                                                                                                                                                                                                                                         LOCATION: 8
OTHER INFORMATION:
OTHER INFORMATION:
                                                                                                                                                                                                                                                               LOCATION: 1
OTHER INFORMATION:
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
5; Conserve
                                                                                                                                                                         TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STREET: 225 F
CITY: Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 QWAVXHI 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 QWAVGHL 8
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APPLICANT: aBOGDEN, ARTHUR E.; MOREAU, JACQUES-PIERRE TITLE OF INVENTION: TITLE OF CANCER WITH PEPTIDE ANALOG OF BOMBESIN, GRP, LITORIN OR NEUROMEDIN NUMBER OF SEQUENCES: 42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 33; DB 6; Length 8;
Pred. No. 1.5e+05;
1; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 1, Application US/07619747B
Patent No. 5244883
GENERAL INFORMATION:
APPLICANT: Cai, Ren Zhi
APPLICANT: Schally, Andrew V.,
TITLE OF INVENTION: Andrew V.,
TITLE OF INVENTION: Andrew IN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY: USA
ZIP: 70002
ZIP: 70002
COMPUTER READBLE FORM:
MEDIUM TYPE: 360K Diskette
COMPUTER: IBM PC
OPERATING SYSTEM: DOS 5.0
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
CLASSIFICATION: 514
PRIOR APPLICATION NUMBER: NO. 5244883e
FILING DATE: N/A
APPLICATION NUMBER: N.A
APPLICATION NUMBER:
FILING DATE:
FILING DATE:
ATCHNEY AGENT INFORMATION:
ANAWE: PARE OFFICE
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                                                                                                                                                                                                                       CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/520,225
FILING DATE: 09-MAY-1990
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3: Dr. Andrew V. Schally
5025 Kawanne Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME: Behr, Omri M.
REGISTRATION NUMBER: 22,940
REFRENCE/DOCKET NUMBER: SHAL
TELECOMMUNICATION INFORMATION:
TELEPHONE: (908)494-5240
TELEFAX: 1-908-494-0428
                                                                                                                                                                                                                                                                                                                                                                                            ; APPLICATION NUMBER: 440,039; ELLING DATE: 21-NOV-1989; APPLICATION NUMBER: 408,125; FILING DATE: 15-SEP-1989; SEQ ID NO:34: LENGTH: 8 5217955-34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       86.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEFAX: 1-908-494-0428
TELEX: 511642 BEPATEDIN
INFORMATION FOR SEQ ID NO: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity 71.4
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Unknown
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STATE: Louisiana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: AMINO STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 QWAVXHI 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2 QWAVGHL 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 12
US-07-619-747B-1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The sequence contains at position 1 a pyroglutamate, rather than a glutamate, and has an methylester (-terminus (i.e., COYOCH3), rather than a carboxyl C-terminus (i.e., COYOH).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ..
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5217955-32
Fatent No. 5217955
TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG BOMESIN, GRY, LITORIN OR NEUROMEDIN
NUMBER OF SEQUENCES: 42
CURRENT APPLICATION DATA:
RICHARD APPLICATION NUMBER: US/08/520,225
FILING DATE: 09-MAY-1990
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 86.8%; Score 33; DB 2; Length 8; Best Local Similarity 71.4%; Pred. No. 1.5e+05; Matches 5; Conservative 1; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME: Clark, Paul T.
REGISTRATION NUMBER: 30,162
REFERENCE/DOCKET NUMBER: 00537/00900D
TELECOMUNICATION INFORMATION:
TELEPHONE: (617) 542-5070
                  APPLICATION NUMBER: 07/248,771
FILING DATE: 09/23/88
APPLICATION NUMBER: 07/207,759
FILING DATE: 06/16/88
APPLICATION NUMBER: 07/204,171
FILING DATE: 06/08/88
APPLICATION NUMBER: 07/104,171
FILING DATE: 03/25/88
APPLICATION NUMBER: 07/10,571
FILING DATE: 09/24/87
ATTONENEY ADDREST ADDR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: 440,039
FILING DATE: 21-NOV-1989
APPLICATION NUMBER: 408,125
FILING DATE: 15-SEP-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEFAX: (617) 542-8906
TELEX: 200154
WFORMATION FOR SEQ ID NO: 5
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ouery Match
Best Local Similarity 71.4°
10/14/88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ) OTHER INFORMATION:

) OTHER INFORMATION:

) OTHER INFORMATION:

US-08-337-127-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRANDEDNESS:
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2 QWAVXHI 8
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2 QWAVGHL 8
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2 QWAVGHL 8
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5217955-32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;SEQ ID NO:32:
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MOLECULE TYPE: peptide

RESULT 11 5217955-34

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86.8%; Score 33; DB 1; Length 9; 71.4%; Pred. No. 1.5e+05;
                                                                                                        Sequence 4. Application US/07619747B
; Patent No. 5244883
; GENERAL INFORMATION:
   APPLICANT: Cal, Ren Zhi
; TITLE OF INVENTION: No. 5244883apeptide Bombesin
   TITLE OF INVENTION: Antagonists
; NUMBER OF SEQUENCES: 40
; CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Andrew V. Schally
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Position 1 is 5F-D-Trp
Position 8 is a reduced
isostere of named aminoacid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: NO. 5244883e
FILING DATE: NAA
APPLICATION NUMBER: STILING DATE:
FILING DATE: ATORNATION:
NAME: Behr, OMIT M.
REGISTRATION NUMBER: 22,940
REGISTRATION NUMBER: SHAL3.0-011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SHAL3.0-011
                                                                                                                                                                                                                                                                                              E: Dr. Andrew V. Schally 5025 Kawanne Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Sequence 5, Application US/07619747B; Sequence 5, Application US/07619747B; Patent No. 5244883 GENERAL INFORMATION: APPLICANT: Cai, Ren Zhi APPLICANT: Schally, Andrew V.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELECOMMUNICATION INFORMATION:
TELEPHONE: (908)494-5240
                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDIUM TYPE: 360K Diskette
COMPUTER: IBM PC
OPERATING SYSTEM: DOS 5.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEFAX: 1-908-494-0428
TELEX: 511642 BEPATEDIN
INFORMATION FOR SEQ ID NO: 4:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            : (908)494-5240
1-908-494-0428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRANDEDNESS: Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TOPOLOGY: Unknown
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM: MEDIUM TYPE: 360K DI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; OTHER INFORMATION:
; OTHER INFORMATION:
; OTHER INFORMATION:
US-07-619-747B-4
                                                                                                                                                                                                                                                                                                    Autoriant Surventry: Metairie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: AMINO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1111 |:
2 QWAVGHL 8
  2 QWAVXHI 8
                                                                                                                                                                                                                                                                                                                                                                        COUNTRY: US
                                                                                                  US-07-619-747B-4
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                                                                                                              86.8%; Score 33; DB 1; Length 9; 71.4%; Pred. No. 1.5e+05; ive 1; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Cai, Ren Zhi
APPLICANT: Cai, Ren Zhi
APPLICANT: Schally, Andrew V.,
TITLE OF INVENTION: No. 5244883apeptide Bombesin
TITLE OF INVENTION: Antagonists
NUMBER OF SEQUENCES: 40
CORRESPONDENCES: 40
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Andrew V. Schally
STREET: 5025 Kawanne Avenue
CITY: Metalrie
STATE: Louisiana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTHER INFORMATION: Position 1 is D-Trp OTHER INFORMATION: Position 8 is a reduced CTHER INFORMATION: isostere of named aminoacid US-07-619-7478-2
                  Position 8 is a reduced isostere of named aminoacid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME: Behr, Omri M.
REGISTRATION NUMBER: 22,940
REGISTRATION NUMBER: SHAL3.0-011
TELECOMMUNICATION INFORMATION:
TELEPHONE: (908)494-5240
TELEFAX: 1-908-494-6228
TELER: 511642 BEPATEDIN
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: 360K Diskette
COMPUTER: 1BM PC
OPPERATING SYSTEM: DOS 5.0
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: NO. 5244883e
FILING DATE: N/A
APPLICATION NUMBER: NO. FILING DATE:
FILING DATE:
FILING DATE:
FILING DATE:
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                 Sequence 2, Application US/07619747B Patent No. 5244883
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity 71.4.
5; Conservative
                                                                                                                                                         5; Conservative
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              ) OTHER INFORMATION:
; OTHER INFORMATION:
US-07-619-747B-1
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Best Local Similarity
Matches 5; Conserv
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2 QWAVGHL 8
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FEATURE:
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Gaps .. ວ

1; Indels

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TITLE OF INVENTION: No. 5244883apeptide Bombesin
TITLE OF INVENTION: Antagonists
NUMBER OF SEQUENCES: 40
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Andrew V. Schally
STREET: 5025 Kawanne Avenue
CITY: Metairie
STATE: Louisiana
COUNTRY: DO02
COMPUTER READABLE FORM:
MEDIUM TYRE: 360K Diskette
COMPUTER READABLE FORM:
MEDIUM TYRE: 360K Diskette
COMPUTER: IBM PC
OPERATING SYSTEM: DOS 5.0
SOFTWARE: 19901129
CLASSIFICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
CLASSIFICATION NUMBER: No. 5244883e
FILING DATE: NA
FILING DATE: SA
STELER OMINIBER: SHAL3.0-011
TELECOMMUNICATION NUMBER: SHAL3.0-011
TELEFAX: 1-908-44-0428
TELEFAX: 1-908-44-0428
TELEFAX: 1-908-44-0428
TELEFAX: 1-908-44-0428
TELEFAX: AMINO
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Position 8 is a reduced
isostere of named aminoacid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: AMINO
STRANDEDNESS: Unknown
TOPOLOGY: Unknown
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OTHER INFORMATION:

OTHER INFORMATION:

OTHER INFORMATION:

OTHER INFORMATION:

US-07-619-7478-5
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Search completed: October 25, 2001, 11:23:56 Job time: 269 sec

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Gaps . 0

ery Match 86.8%; Score 33; DB 1; Length 9; Bt Local Similarity 71.4%; Pred. No. 1.5e+05; tches 5; Conservative 1; Mismatches 1; Indels

2 QWAVXHI 8 ||||| |: 2 QWAVGHL 8

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Amino acid sequenc
Human secreted pro
Human cell signall
Sequence of new ne
Antagonist of bomb
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Bombesin analog pe
Linear litorin ana
Linear litorin ana
Bombesin analogue
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                                                                                            October 25, 2001, 11:22:46; Search time 129.78 Seconds (without alignments) 3.737 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /SIDSB/gcgdata/geneseq/geneseqp/AA1980.DAT:*
/SIDSB/gcgdata/geneseq/geneseqp/AA1981.DAT:*
/SIDSB/gcgdata/geneseq/geneseqp/AA1981.DAT:*
/SIDSB/gcgdata/geneseq/geneseqp/AA1983.DAT:*
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/SIDS8/gcgdata/geneseq/geneseqp/AA1994.DAT:*
/SIDS8/gcgdata/geneseq/geneseqp/AA1995.DAT:*
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /SIDS8/gcgdata/geneseq/geneseqp/AA1997.
GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                                                                                                                                                                                                                        I number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                           412676 segs, 60623988 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SUMMARIES
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Maximum Match 100%
Listing first 45 summaries
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AAY44245
AAP91147
AAR20585
AAR32998
AAW94610
AAP20294
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AAR11242
AAR29155
                                                               - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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length: 2000000000
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Maximum DB
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                                                                                               Run on:
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Bombesin analogue Bombesir receptor Sequence of Bombes Example of peptide	unalogue unalogue unalogue unalogue		Linear litorin una Linear litorin ana Peptide analogue # Bombesin antagenis Bombesin antagenis Bombesin receptor		curc curc e bom e of e of
AAR29157 AAW64911 AAR09335 AAR11522		AAW5119 AAW5120 AAP9611 AAB4834 AAR0453	AAR11224 AAR11240 AAR14877 AAR28456 AAR28459 AAW64910		AAR0452 AAR0453 AAR0453 AAR0834 AAR1152 AAR1152
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12 13 14 15	16 17 19 20	22 22 24 25 25	26 22 23 23 33 33 34 34 6	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	0 0 0 4 4 4 4 4 0 0 0 0 0 0 0 0 0 0 0 0

ALIGNMENTS

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Vasoactive intestinal peptide; VIP; analogue; somatostatin; SUM1; SUM2, VIP1; VIP2; VIP3; BOM1; bombesin; SP1; substance P; Mu.1 7; tumour growth; tumour anglogenesis; metastasis; cancer; anglogenesis; adenocarcinoma;
                                                                                    Amino acid sequence of antiangiogenic peptide DT-27.
                                                                                                                                                                                                                              /label= Aib
/note= "alpha-aminoisobutyric acid"
                                                                                                                                                                                                                                                             /note= "amidated residue"
                                                                                                                                                                                                        'note= "D-form residue"
                                                                                                                                                                                    Location/Qualifiers
                     AAB08310 standard; peptide; 8 AA.
                                                                                                                                                                                                                                                                                                                              11-FEB-2000; 2000WO-US03559
                                                                                                                                                                                                                                                                                                                                                   99US-0248381
                                                               (first entry)
                                                                                                                                           leukaemia; lymphoma
                                                                                                                                                                                             Misc-difference
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                                                                                                                                                                                                                 Modified-site
                                                                                                                                                                                                                                                   Modified-site
                                                                                                                                                                                                                                                                                                                                                   11-FEB-1999;
                                                               04-DEC-2000
                                                                                                                                                                                                                                                                                                        17-AUG-2000
                                                                                                                                                                Synthetic.
                                         AAB08310;
           AAB08310
RESULT
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13-MAY-1999;
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                                                                                                                                                                     AABO8304-15 represent peptides which have an antiangiogenic effect. The specification describes therapeutically active compositions comprising at least one analogue of somatostatin (chosen from SOMI and SOMI), and at least four analogues chosen from vascactive intestinal peptide (VIP) 1 (a VIP antagonist), VIP2 (a VIP receptor binding inhibitor), VIP3 (a VIP receptor antagonist), The combination of these 7 analogues is known as substance P antagonist). The combination of these 7 analogues is known as wuly-7. MuJ-7 is used as an anticancer drug to restrict tumour growth and spread by inhibiting tumour angiogenesis. MuJ-7, in addition, inhibits metastasis through its antianglogenic activity in all cancers. The peptides are useful for the treatment and prevention of angiogenesis, especially as a result of adenocarcinomas of the colon, breast, lung, prostate, kidney, leukemias or lymphomas.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Secreted protein; human adult testes; nutrition; cytokine; stimulant; cell proilferation; differentiation; immune system; suppressor; ilgand; regulator; hematopolesis; tissue growth; activin; halbin; haemostatic; chemotaxis; chemokinetic; thrombosis; receptor; cadherin; tumour;
                                             Mathur A;
                                                                                                    Novel therapeutically active composition comprising at least 5 peptides, useful for treating angiogenesis especially as a result of adenocarcinomas -
                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                             ;
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                                             Rajendran P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Merberg D;
                                                                                                                                                                                                                                                                                                                                                                       92.1%; Score 35; DB 21; Length 8; 100.0%; Pred. No. 3.4e+05; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          McCoy JM,
                                             Burman AC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human secreted protein from clone CG300_3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Lavallie ER,
Treacy M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAW64220 standard; Protein; 245 AA.
                                             Prasad S,
                                                                                                                                                   Claim 11; Page 31; 42pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       97US-0991872.
96US-0769192.
97US-0783401.
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(NAIM-) NAT INST IMMUNOLOGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             06-OCT-1998 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (GEMY ) GENETICS INST INC.
                                                                                                                                                                                                                                                                                                                                                                       Query Match 92.1
Best Local Similarity 100.
Matches 7; Conservative
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Spaulding V,
            DABUR RES FOUND
                                            Mukherjee R, Jaggi M,
                                                                               WPI; 2000-549083/50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         anti-inflammatory
                      CORD J I.
                                                                                                                                                                                                                                                                                                                                      8 AA;
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2 qwavxhi 8
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18-DEC-1996;
13-JAN-1997;
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Racie LA, S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           25-JUN-1998
                                                         Singh AT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAW64220;
                                                                                                                                                                                                                                                                                                                                        Sequence
                      (CORD/)
             (DABU-)
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                                                                                                                                                                                                                                                                             applications for nutritional use, cytokine and cell proliferation/differentiation activity, immune stimulaling... proliferation activity, tissue growth activity, activity, hematopolesis regulating activity, tissue growth hemmostatic, activin/inhibin activity, chemotactic/chemokinetic activity, hemostatic/chemokinetic activity, acceptor/ligand activity, anti-inflammatory activity, acdherin/tumour invasion suppressor activity, tumour inhibition activity and other activities.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Cell signalling protein-8; CSIGP-8; cell proliferation; arterio. Terosis;
                                                                                                                                                                                                                               This sequence represents a novel secreted protein from clone \rm CG300\_3 isolated from a human adult testes cDNA library. This protein h++
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                               foetal brain, human adult testes, human adult brain and human . Hult salivary gland cDNA libraries
                                                                             New polynucleotides and secreted proteins - obtained from human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  . .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 35; DB 19; Length 245;
Pred. No. 19;
0; Mismatches 1; Indels
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137
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169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note= "Potential glycosylation site"
175..195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note= "Potential glycosylation site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note= "Potential phosphorylation
311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /label= Signature_sequence 236..254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /label= Signature_sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                               Claim 14j; Page 68; 110pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAY44245 standard; Protein; 336 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human cell signalling protein-8.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            92.1%;
ilarity 85.7%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99WO-US10567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .195
WPI; 1998-362774/31.
N-PSDB; AAV44294.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          245 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |||| ||
128 qwavihi 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 QWAVXHI 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO9958558-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       28-FEB-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           18-NOV-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAY44245;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
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us-09-630-333-7.rag

8*88888888

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It is a potent bombesin antagonist. It may be used for the treatment of e.g. malignant disease, conditions associated with the over-prodn. Of bombesin and conditions associated with failure of normal physiological control of the regulation of gastric acid secretion.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The peptide is modified at the N-terminal with a lauryl, palm, \cdot,1 or esp. an octanoyl gp. The Leu at position 7 may be absent. f_{\rm LP} C-terminal (Leu or His) is amidated. The peptides and deri
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New peptide bombesin-GRP antagonists - used as antitumour agents to treat e.g. leukaemia, small cell lung and prostatic carcinoma and to inhibit gastric acid secretion.
                                                                                                                                 New Neuromedin C polypeptide derivs. - are potent bombesin antagonist used for treating malignant disease and conditions associated with gastrin or gastric acid
                                                                                                                                                                                                                                                                                                                                                                                          Score 34; DB 10; Length 7; Pred. No. 3.4e+05; 1; Mismatches 1; Indels
                                                                   Hayward CF;
                                                                                                                                                                                                                     Disclosure; Page 929; 49pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAR20585 standard; Peptide; 7 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 7; Page 12; 14pp; English.
                                                                   Dutta AS,
                                 (ICIL ) IMPERIAL CHEM INDS PLC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note= "D-Ala"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (RICH ) MERRELL DOW PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                          89.5%;
ilarity 71.4%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          90US-0558031.
88GB-0013355.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       91EP-0112504.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Antitumour agent; leukaemia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Antagonist of bombesin/GRP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                   Cotton R,
                                                                                                 WPI; 1989-139341/19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1992-034251/05
                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                        7 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Krstenansky JL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             QWAVXHI 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |||| |:
| gwavahl 7
06-JUN-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       25-JUL-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          26-JUL-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 07-MAY-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         29-JAN-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EP468497-A.
                                                                   Camble R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Synthetic.
                                                                                                                                                                                       secretion
                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAR20585;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT
AAR20585
QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The present sequence is cell signalling protein-8 (CSIGP-8) encoded by CDNA obtained from Incyte clone 054191 of FIBRNOT01 library. It is expressed in cardiovascular, gastrointestinal and nervous tissues and is found to be homologous to putative G-protein-coupled receptor. Fragments of CSIGP encoding nucleic acid can be used as hybridisation probe for detecting CSIGP related sequences or allelic variants. Recombinant CSIGP can be produced in host cells by transforming them with genetically engineered vectors. Agonists or antagonists can be used in the treatment of cell proliferative and inflammatory disorders associated with decreased or increased CSIGP expression. CSIGP is used in the diagnosis, prevention and treatment of cell proliferative disorders like arteriosclerosis, cirrhosis, cancer, hepatitis and inflammatory disorders like AIDS, Addison's disease, multiple sclerosis, etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bombesin antagonist; malignant disease; therapy; gastric acid secretion.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                 Patterson C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ó;
                                                                                                                                                                                                  Human cell signaling proteins useful for, e.g. diagnosing cell proliferative and inflammatory disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 21; Length 336;
26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                 Tang YT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 35; DB 2
Pred. No. 26;
0; Mismatches
                                                                                                 Yue H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence of new neuromedin C deriv.
                                                                                                                                                                                                                                                   Claim 1; Page 72-73; 90pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAP91147 standard; protein; 7 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note="Ac-D-Gln"
5
                                                                                               Lal P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /label=OTHER
/note="Leu-OMe"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note="D-Ala"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            92.1%;
85.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /label=OTHER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /label=OTHER
            98US-0085343.
98US-0098010.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  88EP-0310094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                               (INCY-) INCYTE PHARM INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6; Conservative
                                                                                             Hillman JL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (corrected)
                                                                                                                                                WPI; 2000-086432/07
                                                                                                                  Yang J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           336 AA;
                                                                                                                                                                    N-PSDB; AAZ29229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1111 ||
220 qwavihi 226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 QWAVXHI 8
          13-MAY-1998;
26-AUG-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  27-OCT-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  13-MAY-1990
22-DEC-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10-MAY-1989
                                                                                               Bandman O,
Baughn MR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EP315367-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAP91147;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
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g ò

Gaps

0;

Length 7;

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Gaps

0

Indels

Score 34; DB 13; Pred. No. 3.4e+05; 1; Mismatches 1;

89.5%; 71.4%;

7 AA;

Conservative

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Query Match
Best Local Similarity
'-hag 5; Conserv?
                                                                                        2 QWAVXHI 8
                                                                                                     ||||| |:
1 qwavahl 7
                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The
                                                                                                                                                     AAW94610
                                                                                                                                           RESULT
                                                                                                                                                                                    XX
SO
                                                                                          δy
                                                                                                             9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The peptides in this example are bombesin analogues. The peptides were tested in a competitive binding assay and a Phosphatidyl Inositol (PI)-turnover assay in mouse pancreas. None of the peptides demonstrated agonist activity but all inhibited PI-turnover (c.f. stimulation produced by 100nM GRP). Analogues of bombesin are potentially useful for growth therapy and the treatment of digestive disorders, e.g. for stimulating digestion, stimulating growth of tissue in the lung, pancreas and intestine, stimulating NK cell activity against tumour cells and stimulating growth of tumours to increase susceptibility to chemotherapeutic agents.
                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                       /note= "N-alpha-acetyl-Gln, N-alpha-octyl-Gln, N-alpha-palmityl-Gln or N-alpha-palmityl-Gln"
saits can be used to treat small cell lung carcinoma, prostatic carcinoma, tumour tissue growth, peptide ulcers, cancer and associated conditions, and to effect antagonism of bombesin/gastrin releasing peptide. Dosage is 0.2-250 mg/kg daily in 1-4 doses, at 5-200 mg/dose.
                                                                                                                         .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New bombesin peptide agonists and antagonists - stimulate or inhibit digestion, increase susceptibility of tumours to chemotherapeutic agents, treat gastric ulcers and tumours etc.
                                                                                                                                                                                                                                                                                                      Intracellular signal; inhibition; gastrointestinal tract;
                                                                                                    Length 7;
                                                                                                   Score 34; DB 13; Length 7;
Pred. No. 3.4e+05;
1; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                 litorin; Gastrin Releasing Peptide; GRP
                                                                                                                                                                                                                                                                                   [D-Ala11]-bombesin(7-13)amide derivs.
                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                           /note= "amidated"
                                                                                                                                                                                                                    AAR32998 standard; peptide; 7 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Example; Page 40; 64pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                      /note= "D-Ala"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (RICH ) MERRELL DOW PHARM INC.
                                                                                                                                                                                                                                                                                                                                                                              /label= OTHER
                                                                                                  89.5%;
71.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            91US-0704863.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       92WO-US03287
                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Edwards JV, Fanger BO;
                                                                                        Query Match
Best Local Similarity
5; Conserv?
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 1992-415707/50
                                                                     7 AA;
                                                                                                                                                                                                                                                                                                                                                                                                             Misc-difference
                                                                                                                                            QWAVXHI 8
                                                                                                                                                               1 qwavahl 7
                                                                                                                                                                                                                                                                                                                                                                  Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                 Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21-APR-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            23-MAY-1991;
                                                                                                                                                                                                                                                              13-APR-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                W09220707-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     26-NOV-1992.
                                                                                                                                                                                                                                                                                                                                     Synthetic
                                                                      Sequence
                                                                                                                                                                                                                                        AAR32998;
                                                                                                                                                                                                 9
                                                                                                                                                                                                 RESULT
                                                                                                                                                                                                                                          888888888
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type inhibitor peptide. The peptide may be used as an antimitotic and antisecretory peptide. It can control growth of small cell lung and prostatic carcinomas, and it can also inhibit gastric secretions which are causative and symptomatic of peptic ulcers. Administration may be oral but is preferably subcutaneous, intravenous, intranscular or intraperitoneal, by depot injection, by implant preparation or by application to the mucous membranes (e.g. of the nose or bronchial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    present sequence represents a bombesin/gastrin releasing peptide
                                                                                                                                                                                                                           Bombesin; gastrin releasing peptide; GRP; inhibitor; and agonist; small cell lung carcinoma; tumour; frog; antimitotic; antisecretory;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note= "optionally modified by octanoy1, lauroy1 or
palmitoy1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New peptide antagonists of bombesin or gastrin releasing peptide are useful as antimitotic and antisecretory agents in treating, e.g., small cell lung carcinoma or peptic ulcers
                                                                                                                                                                    Bombesin/gastrin releasing peptide type inhibitor peptide #2.
                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 5; Column 14; 9pp; English.
AAW94610 standard; peptide; 7 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     7
/note= "amidated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             90US-0558031.
94US-0278692.
95US-0447528.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  96US-0960130
                                                                                                                27-APR-1999 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (RICH ) MERRELL PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 1999-141255/12.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        tubes) by aerosol.
                                                                                                                                                                                                                                                                                                                                                  Synthetic.
Bombina bombina.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Krstenansky JL;
                                                                                                                                                                                                                                                                                                                                                                                                                                          Key
Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Modified-site
                                                                                                                                                                                                                                                                                           peptic ulcer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                26-JUL-1990;
21-JUL-1994;
23-MAY-1995;
23-FEB-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              23-FEB-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       24-JUL-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US5834433-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       10-NOV-1998
                                                         AAW94610;
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us-09-630-333-7.rag

AAP20294 RESULT

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This peptide is a specifically claimed example of a generic formula. The C-terminal amino acid (Met) of the naturally occurring peptide has been converted to an amide and Phe 8 has been replaced by beta-Leu. Gly 6 has also been replaced by D-Ala. The peptide is useful for treating benign or malignant tissue proliferation, artherosclerosis, gastroincestinal disorders and diabetes. They act as competitive inhibitors of natural peptides, since they bind to the cell receptors but have no biological
                                                                                                                                                                                                                                                                                                                                                                                                                                                 New linear peptide analogues of bombesin - modified to eliminate, biological activity while retaining receptor affinity, for treating cancer, diabetes, etc.
                                                                Bombesin; litorin analogue; linear; receptor affinity; cancer,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bombesin; litorin analogue; linear; receptor affinity; cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The analogue may also be of a naturally occurring peptide terminating at the C-terminus with a Met residue, such as the 10 amino acid C-terminal region of mammalian GRP or amphibian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 34; DB 12; Length 8; Pred. No. 3.4e+05; 1; Mismatches 1; Indels
                                                                                                                                                                       /label = D-p-chloro-phenylalanine
                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                         (TULA ) ADMIN TULANE EDUCATIONAL. (BIOM-) BIOMEASURE INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAR11242 standard; Protein; 8 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 18; Page 54; 58pp; English.
                                   Linear litorin analogue (III).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         89.5%;
71.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Linear litorin analogue (IV).
                                                                                                                                                                                                                                                                                                                                                                                        Coy DH, Moreau JP, Kim SH;
                                                                                                                                                                                                                                                                 90WO-US04646
                                                                                                                                                                                                                                                                                            89US-0397169
90US-0502438
 17-MAY-1991 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            17-MAY-1991 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best_Local Similarity 71.4
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                See also AAR11239-242.
                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 1991-087241/12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 QWAVXHI 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ||||| |:
2 qwavahl 8
                                                                                                                                          Key
Modified-site
                                                                                                                                                                                                                                                               17-AUG-1990;
                                                                                                                                                                                                                                                                                            21-AUG-1989;
30-MAR-1990;
                                                                                                                                                                                                    WO9102746-A
                                                                                                                                                                                                                                  07-MAR-1991
                                                                                                          Synthetic
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                                                                                diabetes.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      activity
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                                                Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The peptide may be preceded by a formyl, acetyl, propionyl, acrylyl or benzoyl group at its C-terminal. The peptide may be used for reducing the body temp. of a mammal, as well as for inducing annalgesia. It produces hypothermia when injected i.c., but not when given i.v. or s.c. See also AAP20291-3.
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                Length 7;
              Score 34; DB 20; Length 7;
Pred. No. 3.4e+05;
L; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 34; DB 3; Length 8; Pred. No. 3.4e+05; 1; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Octa:peptide bombesin analogues - having hypothermic and
                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                AAP20294 standard; peptide; 8 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAR11241 standard; Protein; 8 AA.
                                                                                                                                                                                                                                                                                                         Bombesin; hypothermic; analgesic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Marki WE, Brown MR, Rivier JEF;
            89.5%; Sccilarity 71.4%; Pre
Conservative 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 8; Column 8; 5pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (48049E).
                                                                                                                                                                                                                                                                                                                                                                                                    'label= D-Glu
                                                                                                                                                                                                                                                                                                                                                                                                                                   /label= D-Ala
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  89.5%;
ilarity 71.4%;
Conservative 1
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                                                                                                                                                                                                                                               (first entry)
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Ouery Match
Best Local Similarity
...... 5; Conservē
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Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   analgesic props.
                                                                                                                                                                                                                                                                                                                                                                                    Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                   Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8 AA;
                                                                        2 QWAVXHI 8
                                                                                           ||||| |:
1 qwavahl 7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        03-OCT-1980;
                                                                                                                                                                                                                                             09-DEC-1992
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              25-MAY-1982
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                                                                                                                                                                                                                                                                                                                                         Synthetic
                                                                                                                                                                                                             AAP20294;
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AAR11241

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The peptide is an example of a highly generic formula. It is an edicament for treating hepatoma. The cpd. acts as antayonest to bombesin, which has been detected in a number of human cance
                                                                                                                                                                                                                                                                                                                    Treatment of hepatoma - by admin. of admixed bombesin analogue with carrier
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 89.5%; Score 34; DB 13; L larity 71.4%; Pred. No. 3.4e+05; Conservative 1; Mismatches 1;
               'note= "D-form residue"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                'note= "D-form residue"
                                                                                                                                                                                                                                                                  Moreau J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Hepatoma; liver cancer; antagonist.
                                          /note= "NMe-D-Ala"
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6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAR29157 standard; peptide; 8 AA.
                                                                                                                                                                                                                      (BIOM-) BIOMEASURE INC. (TULA) TULANE EDUCATIONAL FUND.
                                                                     /note= "Leu-OMe'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note= "Leu-OMe"
                                                                                                                                                                                                                                                                Bodgen AE, Coy DH, Kim SH,
                                                                                                                                                              92WO-US03916.
                                                                                                                                                                                         91US-0698681
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                                                                                                                                                                                                                                                                                             WPI; 1992-415466/50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 5; Conserv
 Misc-difference 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8 AA;
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                           Modified-site
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                                                         Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Modified-site
                                                                                                                                                              11-MAY-1992;
                                                                                                                                                                                         0-MAY-1991;
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2 qwavahl
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                                                                                                    WO9220363-A.
                                                                                                                               26-NOV-1992
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAR29157;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   These peptides are specifically claimed examples of a generic formula. The C-terminal amino acid (Met) of the naturally occurring peptide has been converted to a methylester.

The peptide is useful for treating benign or malignant tissue proliferation, artherosclerosis, gastrointestinal disorders and diabetes. They act as competitive inhibitors of natural peptides, since they bind to the cell receptors but have no biological
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                              New linear peptide analogues of bombesin - modified to eliminate biological activity while retaining receptor affinity, for treating cancer, diabetes, etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The analogue may also be of a naturally occurring peptide terminating at the C-terminus with a Met residue, such as the 10 amino acid C-terminal region of mammalian GRP or amphibian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 34; DB 12; Length 8; Pred. No. 3.4e+05; 1; Mismatches 1; Indels
                                                                            1...
/label=D-Phe, pentafluoro-Phe
                                                                                                     6..6
/label= N-methyl-D-Ala
                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 20+21; Page 54; 58pp; English.
                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hepatoma; liver cancer; antagonist
                                                                                                                                                                                                                                                                             (TULA ) ADMIN TULANE EDUCATIONAL. (BIOM-) BIOMEASURE INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAR29155 standard; peptide; 8 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     fery Match 89.5%;
st Local Similarity 71.4%;
tches 5; Conservative
                                                                                                                                                                                                       90WO-US04646.
                                                                                                                                                                                                                                  89US-0397169.
                                                                                                                                                                                                                                                                                                                          Kim SH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bombesin analogue (5).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               See also AAR11239-242
                                                                                                                                                                                                                                                                                                                          Moreau JP,
                                                                                                                                                                                                                                                                                                                                                    WPI; 1991-087241/12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 QWAVXHI 8
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2 qwavahl 8
                                                                  Modified-site
                                                                                                 Modified-site
                                                                                                                                                                                                       17-AUG-1990;
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30-MAR-1990;
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                                                                                                                                           WO9102746-A
                                                                                                                                                                          07-MAR-1991
                            Synthetic
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diabetes
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Length 8; Indels

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The patent discloses (1) the peptide sequence of bombesin (BBN), gastrin releasing peptide (GRP), Neuromedin B or Neuromedin C, the peptide sequence having a chlorambucil group attached to the peptide sequence having a chlorambucil group attached to the mainor terminal; (2) a BBN receptor antagonist of formula R4-Asn-R5-Trp-Ala-H1s-Leu-CO-CH2CH2.

R4-H1s-Trp-Ala-R1-R2-H1s-R3-CO-CH2CH3; and (3) a BBN receptor antagonist of formula R4-Asn-R5-Trp-Ala-N1-R2-H1s-Leu-CO-CH2CH2.

In these formulae, R1 = Val Or Thr; R2 = Gly or D-Ala; R3 = Leu or Phe; R4 = N-acetyl, bromoacetyl, chloroacetyl, [bis(2-chloroethyl)-CC aminol-L-phenylalanine or a chlorambucil group; and R5 = Gln or H1s.

The compounds act as potent BBN/GRP-like peptide antagonists. They can be used to inhibit the growth of cells that are sensitive to the growth-promoting effects of BBN, GRP or a related peptide such as pancreatic cells, gastric cells, neurons, hypothalamic cells and cancerous cells or tumours. They can also be used to inhibit the growth of peptide to cells capable or a related peptide of behind the cells capable or control the cells capable or control they can are a related peptide at cells capable or control they can a related peptide at cells capable or control they can a related peptide control they can are control they can a related peptide control they can are control they can a related peptide control they can are c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                binding. They can be used for treating e.g. peptic ulcer, pancreatitis, eating disorders, diabetes, acromegaly, enterocutaneous fistula, psoriasis, growth retardation, gastrointestinal motility disorders or tumours. The terminal structures of the compounds protect them from in vivo proteolysis and provide highly potent antagonist effects that persist for extended periods of time upon administration.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence of Bombesin receptor peptide ligand with irreversible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 34; DB 16; Length 8; Pred. No. 3.4e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /label= H-pMel
/note= "pMel= p-bis (2-chloroethyl)
amino-L-phenylalanine"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Galantino M, Corradi F,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bombesin receptor; agonist; antagonist
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAR09335 standard; peptide; 9 AA.
  disorders, psoriasis and cancers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /label= Met-NH2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (FARM ) FARMITALIA C ERBA SPA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 89.5%;
71.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 89GB-0006900.
88GB-0017379.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           de Castiglione R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |||| |:
2 qwavahl 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 QWAVXHI 8
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Modified-site
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21-JUL-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   30-MAR-1992
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAR09335;
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bromoacetyl, chloroacetyl, (bis(2-chloroethyl)-amino]-
L-phenylalanine or a chlorambucil group"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New bombesin, gastrin releasing peptide or Neuromedin B or C derivs. - antagonists for treating conditions such as gastrointestinal
                                                                                                                                                                                                                                                                                                             The peptide is an example of a highly generic formula. It is used in a medicament for treating hepatoma. The cpd. acts as antagonist to bombesin, which has been detected in a number of human cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bombesin; antagonist; chlorambucil; peptic ulcer; pancreatitis; eating disorder; diabetes; acromegaly; enterocutaneous fistula; psoriasis; growth retardation; gastrointestinal motility disorder;
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                                                                                                                                                                                           Treatment of hepatoma - by admin. of admixed bombesin analogue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 8;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               89.5%; Score 34; DB 13; Lei
71 4%; Pred. No. 3.4e+05;
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                                                                                             Kim SH, Moreau J;
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                                                                                                                                                                                                                                                                  Claim 15; Page 48; 54pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAW64911 standard; peptide; 8 AA.
                                           TULANE EDUCATIONAL FUND.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bombesin receptor antagonist.
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                    (BIOM-) BIOMEASURE INC (TULA) TULANE EDUCATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 1995-052004/07.
                                                                                             Bodgen AE, Coy DH,
                                                                                                                                           WPI; 1992-415466/50
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Best Local Similarity
Matches 5; Conserv
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qwavahl 8
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                                                                                    The inventors claim 36 peptides. Also claimed are:
(a) pharmaceutical prepn. of a peptide of the invention; (b) prepn. of the peptides.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This is a peptide analogue of mammalian gastrin releasing peptide (GRP), neuromedin-B or -C, amphibian bombesin and litorin. It is an agonist of these cpds. and is used to treat smooth muscle proliferation and cancer of the prostate, breast or lung. Residue 6 (Ala) is D-alaine. See also AAR11519-21 and AAR11523-30.
                        Bombesin receptor peptide ligands with irreversible effects - as agonists and antagonists both weak and strong
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Treatment of non malignant proliferative disease and cancer - administration of natural peptide or fragment selected from gastrin-releasing peptide, neuromedin, amphibian bombesin or
                                                                                                                                                                             89.5%; Score 34; DB 11; Length 9; 71.4%; Pred. No. 3.4e+05; tive 1; Mismatches 1; Indels
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/label= OTHER
/note= "D-p-chlorophenylalanine"
                                                                                                                                                                                                                                                                                                                                                                                                                          Non-malignant proliferative disease; cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 22; page 54; 73pp; English.
                                                                                                                                                                                                                                                                                                                     AAR11522 standard; Protein; 9 AA.
                                                             Claim 2; Page 26; 32pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          90US-0520225.
89US-0408125.
89US-0440039.
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Best Local Similarity 71.4
Matches 5; Conservative
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WPI; 1990-067161/09.
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2 qwavahl 8
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21-NOV-1989;
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9 AA;

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Score 34; DB 12; Length 9;
Pred. No. 3.4e+05;
1; Mismatches 1; Indels
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Job time: 219 sec
Query Match 89.5%;
Best Local Similarity 71.4%;
Matches 5; Conservative
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Edwards JV, Fanger BO;
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Bombesin analog pe
Linear litorin ana
Linear litorin ana
Bombesin analogue
Bombesin analogue
Bombesin receptor
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Sequence of new ne
Antagonist of bomb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   [D-Ala11]-bombesin
                                                                                                                     October 25, 2001, 11:22:46; Search time 129.78 Seconds (without alignments) 3.737 Million cell updates/sec
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                                                                                                                                                                                                                                                                                                                                                                                                            412676
GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
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                                                                                                                                                                                                                                                                                                                                                             412676 seqs, 60623988 residues
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Maximum Match 100%
Listing first 45 summaries
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AAP91147
AAR320985
AAR320994
AAR11242
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AAR29155
AAR29155
AAR64911
                                                                               OM protein - protein search, using sw model
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Maximum DB seq length: 2000000000
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28
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4)	Peptide analogue . Peptide analogue . Dentide analogue .			Human secreted pa	Amino acid sequer. Breast and ovaria	- 14	Enterococcus fae	Human RICK prote			Human CARD-3 pro.	Human cancer ass	Caenorhabditis er	Protein encoded !	Enterococcus faeca	Enterococcus faeca	Bombesin/gastrin :	U	Linear litorin a .	Linea litorin and	Peptide analogue #	Bombesin antagonis	Bombesin antagonis	Bombesin receptor	Bombesin analogue.
AAR11522 AAR14865	AAR14866 AAR14867 AAR14873	AAR40903 AAW51195	AAW51201 AAP96113	AAW75003	AAR37918 AAB58984	AAY75289	AAY00207	AAY59404	AAW92795	AAY68774	AAB20079	AAB43570	AAW98108	AAB07570	AAY00206	AAY00188	AAB48341	AAR04531	AAR11224	AAR11240	AAR14877	AAR28456	AAR28459	\vdash	AAB72406
175	12	147	19	19	20	21	20	21	202	21	22	21	20	21	20	50	22	11	12	12	12	13	13	16	22
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ALIGNMENTS

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It is a potent bombesin antagonist. It may be used for the treatment of e.g. malignant disease, conditions associated with the over-prodn. of bombesin and conditions associated with failure of normal physiological control of the regulation of gastric acid secretion.
                                                                                                                                                                                     Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The peptide is modified at the N-terminal with a lauryl, palmitoyl cor esp. an octanoyl gp. The Leu at position 7 may be absent. The C-terminal (Leu or His) is amidated. The peptides and derived salts can be used to treat small cell lung carcinoma, prostatic carcinoma, tumour tissue growth, peptide ulcers, cancer and associated conditions, and to effect antagonism of bombesin/gastrin releasing peptide. Dosage is 0.2-250 mg/Kg daily in 1-4 doses, at 5-200 mg/dose.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New peptide bombesin-GRP antagonists - used as antitumour agreent to treat e.g. leukaemia, small cell lung and prostatic carcinoma and to inhibit gastric acid secretion.
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                                                                                                                                               Score 23; DB 10; I
Pred. No. 3.4e+05;
); Mismatches 2;
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Best Local Similarity 71.4%;
Matches 5; Conservative
                                                                                                                                               Query Match 82.1%;
Best Local Similarity 71.4%;
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  91EP-0112504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Antitumour agent; leukaemia
                                                                                                                                                                                                                                                                                                                                                                                                                                           Antagonist of bombesin/GRP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 1992-034251/05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  7 AA;
                                                                                                   AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Krstenansky JL;
                                                                                                                                                                                                                                                 7
                                                                                                                                                                                                                     2 QXAVXHL 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 QXAVXHL 8
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1 qwavahl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  25-JUL-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    26-JUL-1990;
                                                                                                                                                                                                                                                                                                                                                                                                            07-MAY-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  29-JAN-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EP468497-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Synthetic
                                                                                                                                                                                                                                                                                                                                                                        AAR20585;
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                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                          AAR20585
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bombesin antagonist; malignant disease; therapy; gastric acid secretion.
                                                                                                          The sequences given in AAR40899-908 are bombesin analogues. These peptides were prepared by solid phase sequential or block synthesis. These peptides act as bombesin antagonists or agonists and have antimitotic and/or anti-secretory activity. They may be used for stimulating digestion in patients, decreasing food intake in patients or stimulating growth of organ tissue of lung, pancreatic or intestinal origin in patients. They can be used for the treatment of gastrointestinal and pancreatic ulcers and for the treatment of
                                                                                                                                                                                                                                                                                                                                                                            Gaps
bouncesin analogues contg. modified phenylalanine derivs. - used for stimulating digestion, decreasing food intake and stimulating growth of organ tissues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New Neuromedin C polypeptide derivs. - are potent bombesin antagonist used for treating malignant disease and conditions associated with gastrin or gastric acid
                                                                                                                                                                                                                                                                                                                                                                            ó;
                                                                                                                                                                                                                                                                                                                                      Score 24; DB 14; Length 9;
Pred. No. 3.4e+05;
); Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hayward CF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Disclosure; Page 929; 49pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    new neuromedin C deriv.
                                                                                   Example 1; Page 43; 54pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAP91147 standard; protein; 7 AA
                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note="Ac-D-Gln"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Dutta AS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note="Leu-OMe"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (ICIL ) IMPERIAL CHEM INDS PLC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note="D-Ala"
                                                                                                                                                                                                                                                                                                                                    85.7%;
71.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /label=OTHER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /label=OTHER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        label=OTHER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               88EP-0310094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                88GB-0013355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (corrected)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Cotton R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1989-139341/19
                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                          AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Misc-difference
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                                                                                                                                                                                                                                                                                                                                                                                                             QXAVXHL 8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                06-JUN-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 13-MAY-1990
22-DEC-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             10-MAY-1989
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAP91147;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       secretion
                                                                                                                                                                                                                                                                                          Sequence
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AAR32998;

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AAR32998

RESULT

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The present sequence represents a bombesin/gastrin releasing peptide type inhibitor peptide. The peptide may be used as an antimit antiseretory peptide. It can control growth of small cell into an prostatic carcinomas, and it can also inhibit gastric secretic are causative and symptomatic of peptic ulcers. Administration or all but is preferably subcutaneous, intravenous, intramusculan cintemperitoneal, by depot injection, by implant preparation or by application to the mucous membranes (e.g. of the nose or bronchial
                                                                                                                                                                                                                                                                   Bombesin; gastrin releasing peptide; GRP; inhibitor; antagon; small cell lung carcinoma; tumour; frog; antimitotic; antisecr rory;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "optionally modified by octanoyl, lautoyl or palmitoyl"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New peptide antagonists of bombesin or gastrin releasing peptide are useful as antimitotic and antisecretory agents in treating, e.g., small cell lung carcinoma or peptic ulcers
                                                                                                                                                                                                               Bombesin/gastrin releasing peptide type inhibitor peptide #2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 23; DB 20; Length 7;
Pred. No. 3.4e+05;
3; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "amidated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 5; Column 14; 9pp; English.
                                        AAW94610 standard; peptide; 7 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  910S-0735402.
900S-0558031.
940S-0278692.
950S-0447528.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          71.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      82.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             96US-0960130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    96US-0960130
                                                                                                                                                       27-APR-1999 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (RICH ) MERRELL PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 1999-141255/12.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                               Bombina bombina
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Krstenansky JL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 QXAVXHL 8
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| gwavah| 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Modified-site
                                                                                                                                                                                                                                                                                                                                peptic ulcer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             23-FEB-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US5834433-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  24-JUL-1991;
26-JUL-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21-JUL-1994;
23-MAY-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    23-FEB-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      10-NOV-1998
                                                                                                                                                                                                                                                                                                                                                                               Synthetic
                                                                                                AAW94610;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Seguence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAP20294
ID AAP20
              AAW94610
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                                              H THE STATE OF THE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The peptides in this example are bombesin analogues. The peptides were tested in a competitive binding assay and a Phosphatidyl Inositol (PI)-turnover assay in mouse pancreas. None of the peptides demonstrated agonist activity but all inhibited PI-turnover (c.f. stimulation produced by 100nM GRP). Analogues of bombesin are potentially useful for growth therapy and the treatment of digestive disorders, e.g. for stimulating digestion, stimulating growth of tissue in the lung, pancreas and intestine, stimulating NK cell activity against tumour cells and stimulating growth of tumours to increase susceptibility to chemotherapeutic agents.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /label= OTHER
/note= "N-alpha-acetyl-Gln, N-alpha-octyl-Gln,
N-alpha-lauryl-Gln or N-alpha-palmityl-Gln"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New bombesin peptide agonists and antagonists - stimulate or inhibit digestion, increase susceptibility of tumours to chemotherapeutic agents, treat gastric ulcers and tumours etc.
                                                                                                                                                                                                                                                                                                                                                                                                 Intracellular signal; inhibition; gastrointestinal tract;
litorin; Gastrin Releasing Peptide; GRP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 23; DB 13; Length 7; Pred. No. 3.4e+05; 0; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                            [D-Ala11]-bombesin(7-13)amide derivs.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note= "amidated"
                                                                                                                                                                         AAR32998 standard; peptide; 7 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Example; Page 40; 64pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (RICH ) MERRELL DOW PHARM INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         82.1%;
ilarity 71.4%;
Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              92WO-US03287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  91US-0704863
                                                                                                                                                                                                                                                                                           (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
'... 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 1992-415707/50.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Misc-difference
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qwavahl 7
| || || ||
| qwavah| 7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21-APR-1992;
                                                                                                                                                                                                                                                                                        13-APR-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO9220707-A
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Synthetic
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Gaps

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AAP20294 standard; peptide; 8 AA.

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This peptide is a specifically claimed example of a generic formula. The C-terminal amino acid (Met) of the naturally occurring peptide has been converted to an amide and Phe 8 has been replaced by beta-Leu. Gly 6 has also been replaced by D-Ala. The peptide is useful for treating benign or malignant tissue proliferation, artherosclerosis, gastrointestinal disorders and alabetes. They act as competitive inhibitors of natural peptides, since they bind to the cell receptors but have no biological
                                                                                                                                                                                                                                                                New linear peptide analogues of bombesin - modified to eliminate biological activity while retaining receptor affinity, for treating cancer, diabetes, etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bombesin; litorin analogue; linear; receptor affinity; cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The analogue may also be of a naturally occurring peptide terminating at the C-terminus with a Met residue, such as the 10 amino acid C-terminal region of mammalian GRP or amphibian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 23; DB 12; L
Pred. No. 3.4e+05;
0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /label=D-Phe, pentafluoro-Phe
6..6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             6..6
/label= N-methyl-D-Ala
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                       Claim 18; Page 54; 58pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAR11242 standard; Protein; 8 AA.
                                                                                                                                        (TULA ) ADMIN TULANE EDUCATIONAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Linear litorin analogue (IV).
                                                                                                                                                                                           Coy DH, Moreau JP, Kim SH;
                                                  90WO-US04646.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 82.1
Best Local Similarity 71.4
Matches 5; Conservative
                                                                                                                                                             BIOMEASURE INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              bombesin.
See also AAR11239-242.
                                                                                                                                                                                                                                WPI; 1991-087241/12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8 AA;
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Modified-site
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                                                  17-AUG-1990;
                                                                                    21-AUG-1989;
30-MAR-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2 qwavahl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       17-MAY-1991
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                07-MAR-1991
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   diabetes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       activity
                                                                                                                                                           (BIOM-)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The peptide may be preceded by a formyl, acetyl, propionyl, acrylyl or benzoyl group at its C-terminal. The peptide may be used for reducing the body temp. of a mammal, as well as for inducing andlesia. It produces hypothermia when injected i.c., but not when given i.v. or s.c. See also AAP20291-3.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bombesin; litorin analogue; linear; receptor affinity; cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         82.1%; Score 23; DB 3; Length 8; 71.4%; Pred. No. 3.4e+05; Live 0; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Octa:peptide bombesin analogues · having hypothermic and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /label= D-p-chloro-phenylalanine
                                                                                                                                                                            Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Brown MR, Rivier JEF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAR11241 standard; Protein; 8 AA.
                                                                                                      Bombesin; hypothermic; analgesic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 8; Column 8; 5pp; English.
                                                                                                                                                                                                /label= D-Glu
5
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                                                                                                                                                                                                                                                   /label= D-Ala
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Best Local Similarity 71.4%;
Matches 5; Conservative
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                                   (first entry)
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                                                                     Bombesin analog peptide
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                                                                                                                                                                                              Misc-difference
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1 qwavahl 7
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                                 09-DEC-1992
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AAP20294
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Gaps

Coy DH,

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The peptide is an example of a highly generic formula. It is used in a medicament for treating hepatoma. The cpd. acts as antagonist to bombesin, which has been detected in a number of human carrest
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The peptide is an example of a highly generic formula. It is ^{\circ}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Treatment of hepatoma - by admin, of admixed bombesin analogue with carrier
                                                                                                                Treatment of hepatoma – by admin, of admixed bombesin analow. with carrier
                                                                                                                                                                                                                                                                                                               82.1%; Score 23; DB 13; Length 8; 71.4%; Pred. No. 3.4e+05;
                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                            0; Mismatches
                                                                Moreau J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "D-form residue"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Moreau J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hepatoma; liver cancer; antagonist
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAR29157 standard; peptide; 8 AA.
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                                                                                                                                                                Claim 14; Page 48; 54pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 15; Page 48; 54pp; English.
                     (BIOM-) BIOMEASURE INC. (TULA ) TULANE EDUCATIONAL FUND.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note= "Leu-OMe"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (TULA ) TULANE EDUCATIONAL FUND
                                                              Coy DH, Kim SH,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Kim SH,
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                                                                                          WPI; 1992-415466/50
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Matches 5; Conserv
                                                                                                                                                                                                                                                                     8 AA;
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qwavahl 8
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                                                                Bodgen AE,
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                                                                                                                                                                                                                                                                     Seguence
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                                                                                                                                                                                                                                                           These peptides are specifically claimed examples of a generic formula. The C-terminal amino acid (Met) of the naturally occurring peptide has been converted to a methylester. The peptide is useful for treating benign or malignant tissue proliferation, artherosclerosis, gastrointestinal disorders and diabetes. They act as competitive inhibitors of natural peptides, since they bind to the cell receptors but have no biological activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                       New linear peptide analogues of bombesin - modified to eliminate biological activity while retaining receptor affinity, for treating cancer, diabetes, etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                  The analogue may also be of a naturally occurring peptide terminating at the C-terminus with a Met residue, such as the 10 amino acid C-terminal region of mammalian GRP or amphibian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 23; DB 12; Length 8;
Pred. No. 3.4e+05;
); Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         'note~ "D-form residue"
                                                                                                                                                                                                                                 Claim 20+21; Page 54; 58pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hepatoma; liver cancer; antagonist
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                                                                       (TULA ) ADMIN TULANE EDUCATIONAL. (BIOM-) BIOMEASURE INC.
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llarity 71.4%;
Conservative (
                                            90US-0502438.
 90WO-US04646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAR29155 standard; peptide;
                              89US-0397169
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                                                                                                                                                                                                                                                                                                                                                                                                                                           See also AAR11239-242.
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                                                                                                                    Moreau JP,
                                                                                                                                               WPI; 1991-087241/12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8 AA;
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2 qwavahl 8
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17-AUG-1990;
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can be used to inhibit the growth of cells that are sensitive to the growth-promoting effects of BBN, GRP or a related peptide such as pancreatic cells, gastric cells, neurons, hypothalamic cells and cancerous cells or tumours. They can also be used to inhibit the binding of BBN, GRP or a related peptide to cells capable of such binding. They can be used for treating e.g. peptic ulcer, pancreatitis, eating disorders, diabetes, acromegaly, enterocutaneous fistula, psoriasis, growth relardation, gastrointestinal motility disorders or tumours. The terminal structures of the compounds protect them from in vivo proteolysis and provide highly potent antagonist effects that persist for extended periods of time upon administration.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          e inventors claim 36 peptides. Also claimed are: ) pharmaceutical prepn. of a peptide of the invention; (b) prepn. the peptides.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence of Bombesin receptor peptide ligand with irreversible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bombesin receptor peptide ligands with irreversible effects agonists and antagonists both weak and strong
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "pMel= p-bis (2-chloroethyl) amino-L-phenylalanine"
                                                                                                                                                                                                                                                                                                 Score 23; DB 16; L. Pred. No. 3.4e+05; 0; Mismatches 2;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bombesin receptor; agonist; antagonist.
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/label= Met-NH2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /label= H-pMel
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                                                                                                                                                                                                                                                                                                 Similarity 71.4%; 5; Conservative
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88GB-0017379.
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                                                                                                                                                                                                                                                                                                     Query Match
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                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New bombesin, gastrin releasing peptide or Neuromedin B or C derivs. - antagonists for treating conditions such as gastrointestinal disorders, psoriasis and cancers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The patent discloses (1) the peptide sequence of bombesin (BBN), gastrin releasing peptide (GRP), Neuromedin B or Neuromedin C, the peptide sequence having a chlorambucil group attached to the amino terminal; (2) a BBN receptor antagonist of formula R4-His-Trp-Ala-R1-R2-His-R3-C0-CH2CH3; and (3) a BBN receptor antagonist of formula R4-Asn-R5-Trp-Ala-Val-R2-His-Leu-C0-CH2CH3. In these formulae, R1 = Val or Thr; R2 = G1y or D-Ala; R3 = Leu or Phe; R4 = N-acetyl, bromoacetyl, chloroacetyl, [bis(2-chloroethyl)-R1-L-phenylalanine or a chlorambucil group; and R5 = G1n or His. The compounds act as potent BBN/GRP-like peptide antagonists. They
        a medicament for treating hepatoma. The cpd. acts as antagonist bombesin, which has been detected in a number of human cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bombesin; antagonist; chlorambucil; peptic ulcer; pancreatitis; eating disorder; diabetes; acromegaly; enterocutaneous fistula; psoriasis; growth retardation; gastrointestinal motility disorder; antitumour.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bombesin receptor antagonist.
                                                                                                                                          Query Match 82.1%;
Best Local Similarity 71.4%;
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                               AAW64911 standard; peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             93US-0078062
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The C-terminal residue is amidated. This peptide is one of 27 specific examples of a highly generic formula. The peptides are all analogues of either litorin; the 10 amino acid C-terminal region of mammalian GRP, neuromedin B or neuromedin C; or the 10 amino acid C-terminal region of amphibian bombesin. They act as at least partial agonists of the natural peptides. The peptide analogues are made by standard methods of synthesis and can be cyclised.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Peptide agonists of litorin, gastrin releasing peptide - neuromedin B or C or bombesin, for treating cancer, preventing smooth muscle proliferation and suppressing appetite and alcohol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           tissue proliferation; gastrin related peptide; peptide hormone.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Peptide analogue #7 of litorin, GRP, neuromedin or bombesin.
                                                               Peptide analogue #6 of litorin, GRP, neuromedin or bombesin
                                                                                             tissue proliferation; gastrin related peptide; peptide horm
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            82.1%; Score 23; DB 12; Length 9; 71.4%; Pred. No. 3.4e+05; Live 0; Mismatches 2; Indels
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                                                                                                                                                                                       /label= D-Phe
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                                                                                                                                                                                                                                                                           Example of peptide agonist of GRP, neuromedin, bombesin and litorin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This is a peptide analogue of mammalian gastrin releasing peptide (GRP), neuromedin-B or -C, amphibian bombesin and litorin. It is an agonist of these cpds. and is used to treat smooth muscle proliferation and cancer of the prostate, breast or lung.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Treatment of non malignant proliferative disease and cancer - by administration of natural peptide or fragment selected from gastrin-releasing peptide, neuromedin, amphibian bombesin or
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                   Length 9;
               Score 23; DB 11; Length 9;
Pred. No. 3.4e+05;
0; Mismatches 2; Indels
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Pred. No. 3.4e+05;
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                                                                                                                                                                                                                                                                                                                                                                                         /note= "D-p-chlorophenylalanine"
                                                                                                                                                                                                                                                                                                         Non-malignant proliferative disease; cancer
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See also AAR11519-21 and AAR11523-30.
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/label= OTHER
               82.1%;
illarity 71.4%;
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ilarity 71.48;
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21-NOV-1989;
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RESULT 14 AAR14865

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The C-terminal residue is amidated. This peptide is one of 27 specific examples of a highly generic formula. The peptides are all analogues of either litorin; the 10 amino acid C-terminal region of mammalian GRP, neuromedin B or neuromedin C; or the 10 amino acid C-terminal region of amphibian bombesin. They act as at least partial agonists of the natural peptides. The peptide analogues are made by standard methods of Synthesis and can be cyclised.
                                                                                                                                                                                                                                                                         Peptide agonists of litorin, gastrin releasing peptide -
neuromedin B or C or bombesin, for treating cancer, preventing
smooth muscle proliferation and suppressing appetite and alcohol
                                                                                                                                                                            (TULA ) TULANE E FUND ADMINISTRA. (BIOM-) BIOMEASURE INC.
                                                                                                                                                                                                                                                                                                                                                Claim 9; Page 18; 25pp; English.
             'label= D-Phe
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82.1%; Score 23; DB 12; Length 9;
Best Local Similarity 71.4%; Pred. No. 3.4e+05;
Matches 5; Conservative 0; Mismatches 2; Indels
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Search completed: October 25, 2001, 11:22:46 Job time: 219 sec

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GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd. OM protein - protein search, using sw model	<pre>Run on: October 25, 2001, 11:28:29 ; Search time 40.36 Seconds (without alignments) 6.790 Million cell updates/sec</pre>	Title: US-09-630-333-8 Perfect score: 28 Sequence: 1 XQXAVXHL 8	Scoring table: BLOSUM62 Gapop 10.0 , Gapext 0.5	Searched: 93435 segs, 34255486 residues	Total number of hits satisfying chosen parameters: 93435	Minimum DB sea lenath: O	Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

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-		٠.	1510	7	K	P45187	haemophilus
7	23	82.1	85	П	PTHP_ECOLI	0	escherichia
3	23	82.1	85	7	PTHP_HAEIN	P43921	haemophilus
4	23	82.1	85	-	PTHP_KLEPN	P16481	klebsiella
2	23	82.1	276	1	END8_STRCO	086820	streptomyce
9	23	82.1	320	-	VSIO_TRYBB	P06013	trypanosoma
7	23	82.1	420	~	PHR_THETH	P37250	thermus agu
ω	23		432	Н	HEM1_CYAPA	P48077	cyanophora
σ	23	82.1	434	Н	HEM1_PASMU	P95525	pasteurella
10	23	82.1	472	, 	IFT2_MOUSE	064112	mus musculu
11	23	82.1	495	~	THDF_TREPA	083561	treponema p
12	23	82.1	496	Н	RECQ_BACSU	P50729	bacillus su
13	23	82.1	546	Н	TCPE_SCHPO	Q9utm4	schizosacch
14	23	82.1	768	i	EF2K_CAEEL	001991	caenorhabdi
15	23	82.1	910	Н	PERT_BORPE	P14283	
16	23	82.1	936	-1	MSH4_HUMAN	015457	homo sapien
17	23	82.1	1206	-	FM14_MOUSE	005859	
18	23	82.1	1213	Н	FMN_CHICK	005858	gallus gall
19	23	82.1	1468		FMN1_MOUSE	002860	
20	23	82.1	1741	Н	RPC1_GIALA	P25202	giardia lam
21	23		2347	~	KROS_HUMAN	P08922	homo sapien
22	23		4447	⊣	PKSK_BACSU	P40803	bacillus su
23	22		14	, -1	ALYT_ALYOB	P08944	alytes obst
24	22		101	-	SMD3_YEAST	P43321	saccharomyc
25	. 22		107	Н	BOMB_BOMVA	P01296	bombina var
26	22		119	-	BOMB_BOMOR	P21591	bombina ori
27	22		246	Н	PS61_ARATH	081146	arabidopsis
28	22		246	-	PS62_ARATH	081147	arabidopsis
53	22		246	П	PSA6_TOBAC	09×q77	nicotiana t
30	22		261	٦	YP9A_CAEEL	009247	caenorhabdi
31	22	78.6	310	-	PURU_MYCTU	050453	mycobacteri
32	22		358	-	MTG2_HAEGA	28	haemophilus
33	22		361	7	RUVB_SYNY3	057396	synechocyst

092838 homo sapien O54663 mus musculu P12851 artinoplane P10654 ampulla fel P12770 arthrobacte O25926 helicobacte O9218 helicobacte P87671 ebola vicus O11457 ebola vicus P87666 ehola vicus P87666 ehola vicus P47190 s., charomyc		.A	n; Pasteurellaceae;	#0 : a = :	-!- FUNCTION: ESSENTIAL FOR CHROMOSOME PARTITIONING (BY SIMILAR) -!- SIMILARITY: CONTAINS A COILED COIL MYOSIN-LIKE STRUCTURE. This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).	ULAR (POTENTIAL). ED COIL (POTENTIAL). ULAR (POTENTIAL). ED COIL (POTENTIAL). (POTENTIAL). (POTENTIAL). (POTENTIAL). (POTENTIAL). (POTENTIAL).
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SPECIES=E.coli; STRAIN=K12 / MG1655;
MEDLINE=97426617; PubMed=9278503;
Blattner F.R., Plunkett G. III, Bloch C.A., Perna N.T., Burland V., Riley M., Collado-Vides J., Glasner J.D., Rode C.K., Mayhew G.F., Gregor J., Davis N.W., Kirkpatrick H.A., Goeden M.A., Rose D.J., Mau B., Shao Y.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "The ptsH, ptsI, and crr genes of the Escherichia coliphosphoenolpyruvate-dependent phosphotransferase system: a complex operon with several modes of transcription."; J. Bacteriol. 170:3827-3837(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Saffen D.W., Presper K.A., Doering T.L., Roseman S.; "Sugar transport by the bacterial phosphotransferase system. Molecular cloning and structural analysis of the Escherichia coli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SPECIES-E.COli, and S.typhimurium; STRAIN=K12, AND LT2; MEDLINE=88257033; PubMed=3290198; Byrne C.R., Monroe R.S., Ward K.A., Kredich N.M.; Byrne C.R., acquences of the cysk regions of Salmonella typhimurium and Escherichia coli and linkage of the cysk regions to ptsH.";
                                                                                                                                                                                                                                                                                                                                                                                                     Escherichia coli, and Salmonella typhimurium.
Bacteria; Proteobacteria; gamma subdivision; Enterobacteriaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SPECIES-E.coli, STRAIN-K12;
MEDLINE-85286331; PubMed-2411636;
de Reuse H., Roy A., Danchin A.;
"Analysis of the ptsH-ptsI-crr region in Escherichia coli K-12:
nucleotide sequence of the ptsH gene.";
Gene 35:199-207(1985).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
SPECLES=E.coli: STRAIN=K12;
MEDLINE=97349960; PubMed=9205837;
Yamamoto Y., Aiba H., Baba T., Hayashi K., Inada T., Isono K.,
                                                                            ö
                                    Length 1510;
                                                                                                                                                                                                                                                             PTHP_ECOLI STANDARD; PRT; 85 AA.
P07006; P05525;
01-APR-1988 (Rel. 07, Created)
01-APR-1988 (Rel. 07, Last sequence update)
01-OCT-2000 (Rel. 40, Last annotation update)
PHOSPHOCARRIER PROTEIN HPR (HISTIDINE-CONTAINING PROTEIN).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "The complete genome sequence of Escherichia coli K-12.";
Science 277:1453-1474(1997).
                                                         6e+02;
                               Score 24; DB 1;
Pred. No. 1.6e+02
                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  iH, ptsI, and crr genes.";
Biol. Chem. 262:16241-16253(1987).
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MEDLINE=88058992; PubMed=2960675;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
SECIESE 2011; STRAIN=K12;
MEDLINE=88314869; PubMed=2457575;
de Reuse H., Danchin A.;
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                                    85.7%;
71.4%;
                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                      PTSH OR HPR.
Escherichia coli, and
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                                      Query Match
Best Local Similarity
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"Construction of a contiguous 874-kb sequence of the Escherichia coli -K12 genome corresponding to 50.0-68.8 min on the linkage map and analysis of its sequence features."; histidine-containing phosphocarrier protein HPr. A redetermination."; J. Biol. Chem. 268:22490-22501(1993). [13] Link A.J., Robison K., Church G.M.; "Comparing the predicted and observed properties of proteins encoded in the genome of Escherichia coli K.12."; Electrophoresis 18:1259-1313(1997). Klevit R.E., Waygood E.B.; "Two-dimensional 1H NMR studies of histidine-containing protein from Escherichia coll. 3. Secondary and tertiary structure as determined by NMR."; SPECIES-S.typhimurium;
MEDLINE-83056997; PubMed-6754732;
Weigel N., Powers D.A., Roseman S.;
"Sugar transport by the bacterial phosphotransferase system. Firmury
structure and active site of a general phosphocarrier protein (HPr)
from Salmonella typhimurium.";
J. Biol. Chem. 257:14499-14509(1982). Itoh T., Kimura S., Kitagawa M., Makino K., Miki T., Mitsuhashi N., Mizobuchi K., Mori H., Nakade S., Nakamura Y., Nashimoto H., Oshima T., Oyama S., Saito N., Sampei G., Satch Y., Sivasundara. S., Tagami H., Takabhashi H., Takeda J., Takemoto K., Uehara K., Wau. Yamagata S., Horiuchi T.; "Mutation of serine-46 to aspartate in the histidine-containing protein of Escherichia coli mimics the inactivation by phosphorylation of serine-46 in HPrs from gram-positive bacteria."; Biochemistry 35:11260-11267(1996). Napper S., Anderson J.W., Georges F., Quail J.W., Delbaere L.T. Waygood E.B.; SPECIES=S.typhimurium; STRAIN-LT2;
MEDLINE-89237892; PubMed-2497295;
Schnierow B.J., Yamada M., Saler M.H. Jr.;
"Partial nucleotide sequence of the pts operon in Salmonella typhimurium: comparative analyses in five bacterial genera.";
Mol. Microbiol. 3:113-118(1989). "The primary structure of Salmonella typhimurium HPr, a phosphocarrier protein of the phosphoenolpyruvate:glycose phosphotransferase system. A correction."; J. Biol. Chem. 259:15212-15214(1984). D.F.; Hochstrasser X-RAY CRYSTALLOGRAPHY (2.0 ANGSTROMS).
MDDLINE-94043003; PubMed-e9226757;
Jia Z., Quail J.W., Waygood E.B., Delbaere L.T.J.;
"The 2.0-A resolution structure of Escherichia coli data bank STRAIN-K12 / W3110; Frutiger S., Hughes G.J., Pasquali C., Submitted (FEB-1996) to the SWISS-PROT X-RAY CRYSTALLOGRAPHY (1.5 ANGSTROMS). MEDLINE-96378616; Pubmed=8784179; SPECIES=E.coli; STRAIN=K12 / EMG2; MEDLINE=97443975; PubMed=9298646; SPECIES-S.typhimurium; MEDLINE-85080006; PubMed-6392295; Powers D.A., Roseman S.; STRUCTURE BY NMR. MEDLINE=87101066; PubMed=3542036; Biochemistry 25:7774-7781(1986). [15] DNA Res. 4:91-113(1997). SEQUENCE FROM N.A. SEQUENCE OF 1-12. SEQUENCE OF 1-12 REVISIONS SEQUENCE.

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Garrett D.S., Seok Y.-J., Peterkofsky A., Gronenborn A.M., Clore G.M.; "Solution structure of the 40,000 Mr phosphoryl transfer complex between the N-terminal domain of enzyme I and HPr."; Nat. Struct. Biol. 6:166-173(1999).
                                                                                                                                                                                                                                                                                                                                                                                                      van Nuland N.A.J., Hangyi I.W., van Schaik R.C., Berendsen H.J., van Gustezen W.F., Scheek R.W., Robillard G.T.; "The high-resolution structure of the histidine-containing phosphocarrier protein HPT from Escherichia coli determined by restrained molecular dynamics from nuclear magnetic resonance nuclear powerhance effect data."
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"Determination of the three-dimensional solution structure of the
histidine-containing phosphocarrier protein HPr from Escherichia coli
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MEDILINE=9702120; PubMed-8868480;
WADILINE=9702120; Wiersma J.A., van der Spoel D., de Groot B.L.,
Scheek R.M., Robillard G.T.;
"Phosphorylation-induced torsion-angle strain in the active center of
HPr. detected by NMR and restrained molecular dynamics refinement.";
Protein Sci. 5:442-446(1996).
                                                               tertiary structure of histidine-
                                                                                                                                                                                                               van Nuland N.A.J., Groetzinger J., Dijkstra K., Scheek R.M.,
                                       Hammen P.K., Waygood E.B., Klevit R.E.; "Reexamination of the secondary and tertiary structure of hi containing protein from Escherichia coli by homonuclear and
                                                                                                                                                                                                                                                                                                                      Eur. J. Biochem. 210:881-891(1992).
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                                                                                                                                                                                      MEDLINE=93130914; PubMed=1483471;
                                                                                                     heteronuclear NMR spectroscopy.";
Biochemistry 30:11842-11850(1991)
                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=94210480; PubMed=8158637;
                   MEDLINE=92089095; PubMed=1751501;
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J. Mol. Biol. 237:544-559(1994).
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MEDLINE=95350630; PubMed=7542800;
Fleischmann R.D., Adams M.D., White O., Clayton R.A., Kirkness E.F.,
Kerlavage A.R., Bult C.J., Tomb J.-F., Dougherty B.A., Merrick J.M.,
McKenney K., Sutton G., Fitzhugh W., Fields C.A., Gocayne J.D.,
Scott J.D., Shirley R., Liu L.-I., Glodek A., Kelley J.M.,
Weidman J.E., Phillips C.A., Spriggs T., Hedblom E., Cotton M.D.,
Ulterpost T.R., Hanna M.C., Nguyen D.T., Saudek D.M.,
Fine L.D., Fritchman J.L., Fuhrmann J.L., Geoghagen N.S.M.,
Gnehm C.L., McDonald L.A., Small K.V., Fraser C.M., Smith H.O.,
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MOD_RES 15 15 PHOSPHORYLATION (BY SIMILARITY).

SEQUENCE 85 AA; 9004 MW; 3D8D599742311830 CRC64;
                                                                                                                                            Bacteria; Proteobacteria; gamma subdivision; Pasteurellaceae;
                                                                                                                                                                                                                                                                                                                                                                                                 "Whole-genome random sequencing and assembly of Haemophilus influenzae Rd.";
Science 269:496-512(1995).
                                                             Last sequence update)
Last annotation update)
N HPR (HISTIDINE-CONTAINING PROTEIN)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 23; DB 1; Length 85; Pred. No. 14;
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Pfam; PF00381; PTS-HPF; 1.
PRNINTS; PR00107; PHOSPHOCPHPR.
PROSITE; PS00369; PTS_HPR_HIS; 1.
PROSITE; PS00589; PTS_HPR_SER; 1.
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                                                (Rel. 32, Created)
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(Rel. 35, Last anno
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71.4%;
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                                                                                              PHOSPHOCARRIER PROTEIN HPR
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                  STANDARD;
                                                                                                                            Haemophilus influenzae
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                                                                                                                                                                            NCBI_TaxID=727;
                                                                                                             PTSH OR HI1713
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             PTHP_HAEIN
P43921;
                                                01-NOV-1995
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DB 1; Length 85; 14;

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                                                                                                                Bacteria; Proteobacteria; gamma subdivision; Enterobacteriaceae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Phosphotransferase system; Sugar transport; Phosphorylation. MOD_RES 15 15 PHOSPHORYLATION. SEQUENCE 85 AA; 9119 MW; 10C8879C0A95ABF7 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 23; DB 1; Length 85; Pred. No. 14;
                                     01-AUG-1990 (Rel. 15, Created)
01-AUG-1990 (Rel. 15, Last sequence update)
01-AUG-1991 (Rel. 20, Last annotation update)
PHOSPHOCARRIER PROTEIN HPR (HISTIDINE-CONTAINING PROTEIN)
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30-MAY-2000 (Rel. 39, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
pUTATIVE ENDONUCLEASE VIII (EC 3.2.-.).
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InterPro, IPR001020; -.

Pfam; PF00381; PTS-HPF; 1.

PRNITS; PR00107; PHOSPHOCPHPR.

PROSITE; PS00369; PTS_HPR_HIS; 1.

PROSITE; PS00589; PTS_HPR_SER; 1.
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Best Local Similarity 71.4%;
Matches 5; Conservative (
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Streptomyces coelicolor.
             STANDARD;
                                                                                                        Klebsiella pneumoniae.
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                                                                                                                                             NCBI_TaxID=573;
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086820;
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END8_STRCO
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                                                                                                           This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Euglenozoa; Kinetoplastida; Trypanosomatidae; Trypanosoma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rice-Ficht And Co. Chen K.K., Donelson J.E.;
Sequence homologies near the C-termini of the variable surface
glycoproteins of Trypanosoma brucei.";
Nature 294:33-57(1981).
-1- FUNCTION: VSG FORMS A COAT ON THE SURFACE OF THE PARASITE. THE
TYPANOSOME EVADES THE IMMUNE RESPONSE OF THE HOST BY EXPRESSING
A SERIES OF ANTIGENICALLY DISTINCT VSGS FROM AN ESTIMATED 1000
Harris D., Taylor K., Parkhill J., Barrell B.G., Rajandream M.<sup>A.</sup>.; Submitted (JUL-1998) to the EMBL/GenBank/DDBJ databases.
-!- FUNCION: DNA N. OGINCOSYLEASE WITH AN AP LYASE ACTIVITY. REQUIRED FOR THE REPAIR OF OXIDATIVE DNA DAWAGE (BY SIMILARITY).
-!- SIMILARITY: BELONGS TO THE FPG FAMILY.
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N-LINKED (GLCNAC. .) (POTENTIAL).
N-LINKED (GLCNAC. .) (POTENTIAL).
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NON_TER
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Pred. No. 49;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             13-AŭG-1987 (Rel. 05, Created)
13-AŭG-1987 (Rel. 05, Last sequence update)
01-MAY-1992 (Rel. 22, Last annotation update)
VARIANT SURFACE GLYCOPROTEIN ILTAT 1.2 (VSG) (FRAGMENT).
                                                                                                                                                                                                                                                                                                                         DNA repair; Hydrolase; Glycosidase; Endonuclease; Zinc. ZN_FING 231 258
                                                                                                                                                                                                                                                                                                                                                            POTENTIAL. 01106CD65EF94DE9 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         320 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
                                                                                                                                                                                                                                                                         InterPro, IPR000191...
Pfam; PF01149; Fapy_DNA_glyco; 1.
PROSITE; PS01242; FPG; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PIR; S09639; S09639.
Pfam; PF00913; Trypan_glycop; 1.
                                                                                                                                                                                                                                                                 EMBL; AL031031; CAA19861.1; -.
                                                                                                                                                                                                                                                                                                                                                                            30408 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; J01220; AAA30286.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                 Ouery Match 82.1%;
Best Local Similarity 71.4%;
Matches 5; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Trypanosoma brucei brucei
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STANDARD;
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282
295
                                                                                                                                                                                                                                                                                                                                                                              276 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=5702;
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282
295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                118 QRAVGHL 124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 QXAVXHL 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VSG GENES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VSIO_TRYBB
P06013;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
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VSIO_TRYBB
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71.48;

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-!- FUNCTION: THIS ENZYME CATALYZES THE LIGHT-DEPENDENT MONOMERIZATION (300-600 NM) OF CYCLOBUTYL PYRIMIDINE DIMERS (IN CIS-SYN CONFIGURATION), WHICH ARE FORMED BETWEEN ADJACENT BASES ON THE SAME DNA STRAND, UPON EXPOSURE TO ULTRAVIOLET RADIATION.

-!- CATALYTIC ACTIVITY: CYCLOBUTADIPYRIMIDINE (IN DNA) = 2 PYRIMIDINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CONTAINS ONE REDUCED FLAVIN (FADH2) CHROMOPHORE THAT IS
                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Kato R., Hasegawa K., Hidaka Y., Kuramitsu S., Hoshino T.; "Characterization of a thermostable DNA photolyase from an extremely thermophilic bacterium, thermus thermophilus HB27.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDIANE-94028944; PubMed-8215386;
Hoshino T., Fujii R., Nakahara T.;
"Molecular cloning and sequence analysis of the crtB gene of Thermus
thermophilus HB27, an extreme thermophile producing carotenoid
                                                                                                                                                                                                                                                                                                                                                                                                                                       30-MAY-2000 (Rel. 39, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
DEOXYRIBODIPYRIMIDINE PHOTOLXASE (EC 4.1.99.3) (DNA PHOTOLYASE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRINTS; PR00147; DNAPHOTLYASE.
PROSITE; PS00394; DNA_PHOTOLYASES_1_1; 1.
PROSITE; PS00691; DNA_PHOTOLYASES_1_2; FALSE_NEG.
Lyase; Chromophore; Flavoprotein; FAD; DNA repair; DNA-binding.
SEQUENCE 420 AA; 47823 MW; BEA2170963672B97 CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Thermus aquaticus (subsp. thermophilus).
Bacteria: Thermus/Deinococcus group; Thermus
                                                                                                Score 23; DB 1; Length 320;
Pred. No. 57;
1; Mismatches 2; Indels
                      33871 MW; D6F18DA8208063C8 CRC64;
                                                                                                                                                                                                                                                                                                                                                                     420 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A., AND SEQUENCE OF 1-10.
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                                                                                                                                                                                                                                                                                                                                                                     PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 J. Bacteriol. 179:6499-6503(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=97474278; PubMed=9335302;
                                                                                                                                                                                                                                                                                                                                                                                                                01-0CT-1994 (Rel. 30, Created)
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                                                                                           82.1%;
57.1%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PHOTOREACTIVATING ENZYME)
                                                                                              Query Match 82.1
Best Local Similarity 57.1
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                     STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESIDUES (IN DNA)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro; IPR000474;
InterPro; IPR002081;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MONOMER
                      320 AA;
                                                                                                                                                                                                                                          157 QTAIMHL 163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=274;
                                                                                                                                                                                            2 QXAVXHL 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -!- COFACTOR:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRAIN-HB27
                                                                                                                                                                                                                                                                                                                                                                  PHR_THETH P37250;
NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   pigments
                                                                                                                                                                                                                                                                                                                                              PHR_THETH
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82.1%; Score 23; DB 1; Length 420;

Query Match

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRAIN-LB555 UTEX;
MEDLINE-90092562; PubMed=2403527;
Bryant D.A., Stirewalt V.L.;
Bryant D.A., Stirewalt V.L.;
Bryant D.A., Stirewalt V.L.;
The cyanelle genome of Cyanophora paradoxa encodes ribosomal proteins not encoded by the chloroplasts genomes of higher pl.v.ts.";
FEBS Lett. 259:273-280(1990).
-!- CATALYTIC ACTIVITY: GUTPANT-TRNA(GLU) + NADPH = GLUTAMATE 1-
SEMIALDEHYDE + NADP(+) + TRNA(GLU).
-!- PATHWAY: FIRST STEP IN PORPHYRIN BIOSYNTHESIS BY THE C5 PATHWAY.
INVOLVED IN CHLOROPHYLL BIOSYNTHESTS.
-!- SIMILARITY: BELONGS TO THE GLUTAMYL-TRNA REDUCTASE FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Porphyrin biosynthesis; Chlorophyll biosynthesis; Oxidoreductase; NADP; Cyanelle.
SEQUENCE 432 AA; 48542 MW; F14378FC72FFDD5R CPC6A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRAIN=LB555 / PRINGSHEIM;
Stirewalt V.L., Michalowski C.B., Luffelhardt W., Bohnert H.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Glaucocystophyceae; Cyanophoraceae; Cyanophora
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                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Submitted (JUL-1995) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2;
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                                                                                                                                                                                                                                                                                01-FEB-1996 (Rel. 33, Created)
01-FEB-1996 (Rel. 35, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
GLUTAMYL-TRNA REDUCTASE (EC 1.2.1.-) (GLUTR).
                                                                                                                                                                                                                                     432 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   434 AA.
  Pred. No. 76; ); Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Mismatches
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Pred. No.
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                                                                                                                                                                                                                                        PRT;
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SEQUENCE OF 407-432 FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                82.1%;
71.4%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PROSITE; PS00747; GLUTR;
                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5; Conservative
                                                                                                                                                                                                                                        STANDARD;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro; IPR000343; -. Pfam; PF00745; GlutR; 1
                                                                                                                                                                                                                                                                                                                                                                                                         Cyanophora paradoxa.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
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                                                                                                                    318 OFAVKHL 324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=2762;
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                                                                     2 QXAVXHL 8
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                                                                                                                                                                                                                                     HEM1_CYAPA P48077;
                                                                                                                                                                                                                                                                                                                                                                                                                               Cyanelle.
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PROTEINS
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083561;
                                                                                                                                                                                                                                                                                                                    CONFLICT
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                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its was by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                         SEMIALDEHYDE + NADP(+) + TRNA(GLU).
PATHWAY: FIRST STEP IN PORPHYRIN BIOSYNTHESIS BY THE C5 PATHWAY.
SIMILARITY: BELONGS TO THE GLUTAMYL-TRNA REDUCTASE FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        O64112: 065385;
30-MAY-2000 (Rel. 39, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
INTERPERON-INDUCED PROTEIN WITH TETRATRICOPEPTIDE REPEATS 2 (IFIT-2)
ATTERVATED RESPONSE GENE 39 PROTEIN) (IFI-54K) (GLUCOCORTICOID-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Structure, chromosome localization, and regulation of expression of
the interferon-regulated mouse Ifi54/Ifi56 gene family.";
Genomics 24:137-148(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
MEDLINE-95203869; Pubmed-7896268;
Bluyssen H.A., Vlietstra R.J., Faber P.W., Smit E.M., Hagemeijer A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
MEDLINE-96239145; PubMed-8660659;
Smith J.B., Herschman H.R.;
"The glucocorticoid attenuated response genes GARG-16, GARG-39, and GARG-49/IRG2 encode inducible proteins containing multiple tetratricopeptide repeat domains.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                     Submitted (JAN-1997) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                          ;
0
                                                     Bacteria; Proteobacteria; gamma subdivision; Pasteurellaceae;
Pasteurella.
                                                                                                                                                                                                                                                                                                                                                                                   82.1%; Score 23; DB 1; Length 434; 71.4%; Pred. No. 78;
                                                                                                                                                                                                                                                                                                                                                                                                          2; Indels
                                                                                                                                                                                                                                                                                              01-NOV-1997 (Rel. 35, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
GLUTAMYL-TRNA REDUCTASE (EC 1.2.1.-) (GLUTR).
                                                                                                                                                                                                                                                                                                                                                                                                          0; Mismatches
                                                                                                                                                                                                                                                                                            EMBL; Y10430; CAA71452.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IFIT2 OR IFI54 OR GARG39.
                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity 71.4
Matches 5; Conservative
                                              Pasteurella multocida
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (Mouse)
                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=10090;
                                                                                                                          Castrillon R.T.;
                                                                                                                                                                                                                                                                                                                                                                                                                                             | || || ||
99 QQAVLHL 105
                                                                             NCBI_TaxID=747;
                                                                                                                                                                                                                                                                                                                                                                                                                               2 QXAVXHL 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     rapman J.;
                                                                                                                STRAIN=2.5;
                                                                                                                                                                                                                                                                                                                                                                                    Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
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-!- FUNCTION: INVOLVED IN THIOPHENE OXIDATION (BY SIMILARITY)
-!- SIMILARITY: BELONGS TO THE ERA/THDF FAMILY OF GTP-BINDING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 1; Length 472;
86;
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0C76034B1C0B2C41 CRC64;
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TPR 9.

TPR 10.

VC -> E (IN REF. 2).

F -> N (IN REF. 2).

MISSING (IN REF. 2).
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Bacteria; Spirochaetales; Spirochaetaceae; Treponema
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      30-MAY-2000 (Rel. 39, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
THDP OF THIOPHENE AND FURAN OXIDATION PROTEIN THDF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ¥.
Arch. Biochem. Biophys. 330:290-300(1996).
-!- SIMILARITY: BELONGS TO THE IFIT FAMILY.
-!- SIMILARITY: CONTAINS TPR REPEATS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                  TPR repeat; Interferon induction.
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Pred. No. 8
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MEDLINE=98332770; Pubmed=9665876;
                                                                                                                                                                                                                                                                                                         EMBL; S77713; AAB33830.1; -.
EMBL; S77710; AAB33830.1; JOINED.
EMBL; U43085; AAC52626.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TPR
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ilarity 71.4%;
Conservative
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404
461
11
182
224
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Best Local Similarity
''^a 5; Conservi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Sequence analysis of the Bacillus subtilis chromosome region between
the serA and kdg loci cloned in a yeast artificial chromosome.";
Microbiology 142:2005-2016(1996).
                                                                                                                                                                                                                                                                                              Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                           01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
30-MAX-2000 (Rel. 39, Last annotation update)
ATP-DEPENDENT DNA HELICASE RECQ (EC 3.5.1.-) (RECOMBINATION PROTEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRAIN=168 / MARBURG;
MEDLINE-96349105; PubMed-8760912;
SOTOKin A.V., Azevedo V., Zumstein E., Galleron N., Ehrlich S.D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   recU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           recS mutations on DNA repair and homologous recombination.", J. Bacteriol. 180:3405-3409(1998).
-1- FUNCTION: PROBABLE DNA HELICASE. REQUIRED FOR DNA REPAIR AND INTRAMOLECULAR RECOMBINATION.
                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Fernandez S., Sorokin A., Alonso J.C.;
"Genetic recombination in Bacillus subtilis 168: effects of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -!- SIMILARITY: BELONGS TO THE RECQ SUBFAMILY OF HELICASES
                                                                                                                                                                                                                                                                     DB 1; Length 495;
                                                                                                                                                                                                                                                                                            2; Indels
                                                                                                                                                                                           GTP (BY SIMILARITY).
GTP (BY SIMILARITY).
GTP (BY SIMILARITY).
C40681269E7AFDZF CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bacillus subtilis.
Bacteria: Firmicutes; Bacillus/Clostridium group;
Bacillus/Staphylococcus group; Bacillus.
                                                                                                                                                                                                                                                                                                                                                                                                      496 AA
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                                                                                                                                                                                                                                                                  Score 23;
Pred. No. 9
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                                                                                                         EMBL; AE001230; AAC65535.1; -.
                                                                                                                                                                                                                  337 340 G
495 AA; 53781 MW;
                                                                                                                             InterPro; IPR002086; -.
InterPro; IPR002106; -.
InterPro; IPR002917; -.
Pfam; PF01926; MMR_HSR1; 1.
GTP-binding.
230 237
                                                                                                                                                                                                                                                                 82.18;
                                                                                                                                                                                                                                                                                          5; Conservative
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                                                                                                                                                                                           237
281
340
                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CHARACTERIZATION.
                                                                                                                                                                                                                                                                                                                                  150 QQAVLHL 156
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                                                                                                                                                                                                                                                                                                                 2 QXAVXHL 8
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P50729:
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SEQUENCE
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                                                                                                                                                                                                                                                                                                                                             Gaps
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01-0CT-2000 (Rel. 40, Last sequence update)
01-0CT-2000 (Rel. 40, Last annotation update)
T-COMPLEX PROTEIN 1, EPSILON SUBUNIT (TCP-1-EPSILON) (CCT-EPS:::N)
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o
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Pred. No. 90;
                                                                                                                                                                                                                                                                                                                                           Indels
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SEQUENCE 546 AA; 59377 MW; DAB279CF67BFDC94 CRC64;
                                                                                                                                                                                                                                          56508 MW; DDC2FED715875F2D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Schizosaccharomyces pombe (Fission yeast).
Eukaryota; Fungi; Ascomycota; Schizosaccharomycetes;
Schizosaccharomycetales; Schizosaccharomycetaceae;
                                                                                                                       Pfam; PF00270; DEAD; 1.
Pfam; PF00271; helicase_C; 1.
PROSITE; PS00690; DEAH_ATP_HELICASE; 1.
Hydrolase; Helicase; DNA-binding; ATP-binding. NP_BIND 38 45 ATP (POTENTIAL).
SITE 136 139 DEAH BOX.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  546 AA
                                                                                                                                                                                                                                                                                                                                       0; Mismatches
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82.18;
71.48;
                           EMBL, 299110; C.L. SubtiList; BG11407; recQ. InterPro; IPR001410; -. InterPro; IPR001650; -. TriferPro; IPR002464; -. nead: 1.
                                                       recQ.
                                                                                                                                                                                                                                                                                                                                         5; Conservative
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                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                 189 QHAVRHL 195
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                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              09UTM4;
                 EMBL;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         nitted (JUN-1994) to the EMBL/GenBank/DDBJ databases.

FUNCTION: PHOSPHORYLATES TWO ADJACENT THRECONINE RESIDUES, THR-57

AND THR-59, IN THE N-TERMINUS OF EUKARYOTIC ELONGATION FACTOR-2.

BINDS CALMODULIN (BY SIMILARITY).

ENZYME REGULATION: UNDERGOES CALCIUM/CALMODULIN-DEPENDENT

INTRAMOLECULAR AUTOPHOSPHORYLATION, AND THIS RESULTS IN IT

BECOMING PARTIALLY CALCIUM/CALMODULIN-INDEPENDENT (BY SIMILARITY).

SUBUNIT: MONOMER OR HOMODIMER (POTENTIAL).

SUBUNIT: MONOMER OR HOMODIMER (POTENTIAL).

STAFERNATIVE PRODUCTS: Z ISOFORMS; EFK 1A (SHOWN HERE) AND EFK-

1B/CERF-2; ARE PRODUCED BY ALTERNATIVE SPLICING.

SIMILARITY: BELONGS TO THE MHCK / EF-2 PROTEIN KINASE FAMILY.
                                       Gaps
                                                                                                                                                                                                                                               15-JUL-1998 (Rel. 36, Created)
15-JUL-1998 (Rel. 36, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
ELONGATION FACTOR 2 KINASE (EC 2.7.1.-) (EEF-2 KINASE) (EEF-2K)
(CALCIUM/CALMODULIN-DEPENDENT EUKARYOTIC ELONGATION FACTOR-2 KINASE)
                                                                                                                                                                                                                                                                                                                                                                             Eukaryota: Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea;
Rhabditidae; Peloderinae; Caenorhabditis.
NCBL_TaxID=6239;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WormPep; F42A10.4; CE01295.
Transferase; Serine/threonine-protein kinase; ATP-binding; Calcium;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRAIN-BRISTOL N2;
MEDLINE=97289688; PubMed=9144159;
Ryazanov A.G., Walden M.D., Mendola C.E., Pavur K.S., Dorovkov M.V., Wiedmann M., Erdjument-Bromage H., Tempst P., Parmer T.G., Prostko C.R., Germino F.J., Hait W.N.;
Identification of a new class of protein kinases represented by eukaryotic elongation factor-2 kinase.";
Proc. Natl. Acad. Sci. U.S.A. 94:4884-4889(1997).
                                       ó;
Score 23; DB 1; Length 546;
Pred. No. 1e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Calmodulin-binding; Phosphorylation; Alternative splicing
DOMAIN 690 693 POLY-GLU.
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                                       2; Indels
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                                                                                                                                                                                                               768 AA.
                                       0; Mismatches
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 82.1%;
71.4%;
 Query Match 82.1
Best Local Similarity 71.4
Matches 5; Conservative
                                                                                                                                                                                                                 STANDARD;
                                                                                                                                                                                                                                                                                                                                                                     Caenorhabditis elegans.
                                                                                                                                                                                                                                   020309;
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768 AA;
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                                                                                                                                                                                                                                                                                                                                                 EFK-1 OR F42A10.4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                 144 QVAVKHL 150
                                                                                                                                                                                                                 EF2K_CAEEL S
001991; 001992;
                                                                             2 QXAVXHL 8
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VARSPLIC
SEQUENCE
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There are no restrictions on its
long as its content is in no way
moved. Usage by and for commercial
(See http://www.isb-sib.ch/announce/
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Emaley P., (Charles I.G., Fairweather N.F., Isaacs N.W.;
"Structure of Bordetella pertussis virulence factor P.69 pertactin.";
Nature 381:90-92(1996).
                                                                                                                                                                                                                                                                                                                                      STRAIN-ISOLATE CN292;
MEDLINE-89264462; PubMed-2542937;
Charles I.G., Dougan G., Pickard D., Chaffield S., Smith M.,
Novotup P., Morrissey P., Fairweather N.F.;
"Molecular cloning and characterization of protective outer membrane protein P.69 from Bordetella pertussis.";
Proc. Natl. Acad. Sci. U.S.A. 86:3554-3558(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -i- SUBGINIT: MONOMER.
-i- SUBCELLULAR LOCATION: OUTER MEMBRANE.
-i- DISEASE: MAY CONTRIBUTE TO THE DISEASE STATE OF WHOOPING COUGH.
-i- MISCELLANEOUS: SYNTHESIZED ONLY IN THE PRESENCE OF LOW MG(2+)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LINES).
5 X 5 AA TANDEM REPEATS OF G-G-A-V-P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REVISIONS TO 264 AND 332.
MEDLINE-92407514; PubMed-1527510;
Li J.L., Fairweather N.F., Novotny P., Dougan G., Charles I.G.;
"Cloning, nucleotide sequence and heterologous expression of the protecting outer-membrane protein P.68 pertactin from Bordetella
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CELL ATTACHMENT SITE (INVOLVED IN ADHESION TO VARIOUS EUKARYOTIC CELL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDIATION AGGIUTINGEN THAT BINDS TO EUKARYOTIC CELLS; A P. MEDIATED BY THE R-G-D SEQUENCE. PERTACTIN MAY HAVE A ROLE BACTERIAL ADHESION, AND THUS PLAY A ROLE IN VIRULENCE.
                                                                                                                                                                                                                                          Bordetella pertussis.
Bacteria; Proteobacteria; beta subdivision; Alcaligenaceae;
                                                                                                                                                   01-JAN-1990 (Rel. 13, Created)
01-JAN-1994 (Rel. 28, Last sequence update)
01-0CT-1996 (Rel. 34, Last annotation update)
PERTACTIN PRECURSOR (OUTER MEMBRANE PROTEIN P.69) (P.93).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               P.93.
PERTACTIN (P.69).
                                                                                                                    910 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Outer membrane; Signal; Virulence; Repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        entities requires a license agreement (Son send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                             AND PARTIAL SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gen. Microbiol. 138:1697-1705(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS).
                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; J04560; AAA22980.1; ALT_SEQ.
                                                                                                                    STANDARD;
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711
910
262
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                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.,
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                   | |: ||
570 QSAIFHL 576
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266
271
276
                                                                                                                                                                                                                                                                                            NCBI_TaxID=520;
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                                                                                                                                                                                                                       PRN OR OMP69A
2 QXAVXHL
                                                                                                                  PERT_BORPE P14283;
                                                                                                                                                                                                                                                                          Bordetella
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REPEAT
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                                                                                 RESULT 15
PERT_BORPE
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Gaps

; 0

Length 768;

82.1%; Score 23; DB 1; Length 768 llarity 57.1%; Pred. No. 1.4e+02; Conservative 1; Mismatches 2; Indels

Best_Local Similarity Matches 4; Conserv

Query Match

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FT REPEAT 281 285 4 (APPROXIMATE).

FT REPEAT 286 290 5 (APPROXIMATE).

FT DOMAIN 579 593 5 X 3 AA TANDEM REPEATS OF P-Q-P.

SQ SEQUENCE 910 AA; 93452 MW; A169871E20A2E7DB CRC64;

Query Match

B2.1%; Score 23; DB 1; Length 910;

Best Local Similarity 71.4%; Pred. No. 1.7e+02;

Matches 5; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
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Search completed: October 25, 2001, 11:28:29 Job time: 477 sec

2 QXAVXHL 8 | | | | | | 247 QGAVVHL 253

Oy Dp

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October 25, 2001, 11:27:45 ; Search time 135.34 Seconds (without alignments) 7.821 Million cell updates/sec
GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                                                                                                                                                                                                                 425026 seqs, 132305027 residues
                                                                  OM protein - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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28
1 XQXAVXHL 8
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Perfect score:
Sequence:
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425026 tal number of hits satisfying chosen parameters: Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

SPTREMBL_16:*

1: sp_archea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_mamman:*
6: sp_mamman:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phane:*
1: sp_rodent:*
1: sp_rodent:*
2: sp_unclassified:*
3: sp_vertebrate:*
1: sp_vertebrate:*
3: sp_vertebrate:*
3: sp_vertebrate:*
3: sp_virus:* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

	Description	007048 aeromonas h	O9z0z3 mus musculu	042654 schizosacch	Q9z316 rhizobium s	Q9wzz5 thermotoga	Q9ppn8 ureaplasma	Q9ra67 thermomonos	Q55655 synechocyst	Q91296 streptomyce	O9haf9 homo sapien	052936 calothrix v	Q9m318 arabidopsis	Q9n8n9 trypanosoma	O9hsbl halobacteri	Q9vap3 drosophila	008235 erwinia car	Q9m033 arabidopsis	Q9naw9 anopheles q	Q9k5g3 alcaligenes
	3 ID	2 007048	11 092023	3 042654	2 Q923L6	2 Q9WZZ5	2 Q9PPN8	2 Q9RA67	2 Q55655	2 Q9L296	1 Q9HAF9	2 052936	10 Q9M318	5 Q9N8N9	1 Q9HSB1	5 Q9VAP3	2 008235	10 Q9M033	5 Q9NAW9	2 Q9K5G3
	Query Match Length DB	264	424	432	179	237	257	265	302	328	347 4	363	476	513	614	196	929	1467	2051	160
æ	Query Match	89.3	89.3	89.3	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	82.1
	Score	25	25	25	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	23
	Result	1	7	e	4	S	9	7	8	6	10	11	12	13	14	15	16	17	18	19

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012 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	0 H C C R R C R R R R R R R R R R R R R R

ALIGNMENTS

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T 1 807048 PRELIMINARY; PRT; 264 AA. 007048; 01-010-1997 (TrEMBLrel. 04, Last sequence update) 01-010-1998 (TrEMBLrel. 08, Last sequence update) 5IMILARITY WITH KNOWN PROKARYOTIC OR EUKARYOTIC PROTEINS. Aeromonas hydrophila. Bacteria; gamma subdivision; Aeromonadaceae; Aeromonas.	NCBL_TaxID=644; SEQUENCE FROM N.A. SEQUENCE FROM N.A. STRAIN=A6; WORD C.Y.F., Heuzenroeder M.W., Quinn D.M., Flower R.L.P.; Wong C.Y.F., Heuzenroeder M.W., Quinn D.M., Flower R.L.P.; Wolning and characterization of two immunophilin-like genes fkpA, on a single 3.9-kilobase fragment of Aeromonas hydrophi J. Bacteriol. 179:3397-3403(1997). J. Bacteriol. 179:3397-3403(1997). EMBL, US6832; AAC45361.1; SEQUENCE 264 AA; 26815 MW; 8D2A5AB9CDDE9681 CRC64;	Score 25; DB 2; Length 264; Pred. No. 61; 0; Mismatches 2; Indels	PRT; 424 AA. Created) Last sequence update) Last annotation update)
148 007048 PRELIMINARY; 007048; 01-01-1997 (TrEMBLrel. 04, 01-JUL-1998 (TrEMBLrel. 08, SIMILARITY WITH KNOWN PROKAR Aeromonas hydrophila. Bacteria; Proteobacteria; ga	NCBL_TaxID=644; [1] SEQUENCE FROM N.A. STRAIN=A6; WONG C.Y.F., Heuzenroeder M.W., Qui "Cloning and characterization of tu fkph, on a single 3.9-kilobase frac genomic DNN."; J. Bacteriol. 179:3397-3403(1997). EMBL; U56832; AAC45361.1; SEQUENCE 264 AA; 26815 MW; 8D28	Query Match 89.3%; Best Local Similarity 71.4%; Matches 5; Conservative 2 QXAVXHL 8	1LT 2 92023 PRELIMINARY; 092023; 01-MAY-1999 (TIEMBLREL 10, 01-MAY-1999 (TIEMBLREL 10, 01-MAY-2001 (TIEMBLREL 16, SCF COMPLEX PROTEIN SKP2.
RESULT 007048 1D 1D 007048 DT 0DT 0DT 0DT 0DT 0DT 0DT 0DT 0DT 0DT	OX R R R R R R R R R R R R R R R R R R R	ON ME	RESULT Q92023 ID Q0 AC Q0 DT 0 DT 0 DT 0

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STRAIN-MSBB / DSM 3109;

M MEDLINE-9289316; bubMed-10360571;

RA Haft D.H., Hickey E.K., Peterson J.D., Nelson W.C., Ketchum K.A.,

RA Haft D.H., Hickey E.K., Peterson J.D., Nelson W.C., Ketchum K.A.,

RA McDonald L., Utterback T.R., Malek J.A., Linher K.D., Garrett M.M.,

Stewart A.M., Cottcon M.D., Pratt M.S., Phillips C.A., Richardson. D.,

RA Heidelberg J., Sutton G.G., Pelschmann R.D., Eisen J.A., White O.,

RA Salzberg S.L., Smith H.O., Venter J.C., Fraser C.M.;

"Evidence for lateral gene transfer between Archaea and Bacteria from

RI genome sequence of Thermotoga maritima.";

RI Nature 399:323-329(1999).

PRBL; AB03174; AAD35974.1; -.

G Sponraw.
                                                                                                                                                                                                          STRAIN-USDA 2061;
MEDLINE=992061640; PubMed=10331255;
WEDLINE=9920640; PubMed=10331255;
WEDLINE=9920640; Niley M.A.;
"Comparison of the evolutionary dynamics of symbiotic and housekerping loci: a case for the genetic coherence of rhizobial lineages.";
EMBL, Biol. Evol. 16:98-13(1999).
EMBL, AF063486; AAD11384.1;
InterPro: LPR002209;
Pfam: PF01522; Polysac_deacet; 1.
01-MAY-2000 (TrEMBLrel. 13, Last annotation update)
NODULATION PROTEIN B (FRAGMENT).
Nhizobium sp. USDA 2061.
Bacteria; Proteobacteria; alpha subdivision; Rhizobiaceae Rhizobiaceae; Rhizobian.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    85.7%; Score 24; DB 2; Length 179; 71.4%; Pred. No. 75;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          85.7%; Score 24; DB 2; Length 237; 71.4%; Pred. No. 1e+02;
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SEQUENCE 179 AA; 19262 MW; F66FA52E61942F13 CRC64;
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01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-MAY-2000 (TrEMBLrel. 13, Last annotation update)
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0; Mismatches
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Bacteria; Thermotogales; Thermotoga.
NCBI_TaxID=2336;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT;
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Best Local Similarity
--hos 5; Conserve
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity
                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                 NCBI_TaxID=87208;
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38 QTAVLHL 44
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Q9PPN8;
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Q9WZZ5
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                                                                                                                                                                          STRAIN=F1(C57/BL6XCBA); TISSUE-THYMUS; Hatakeyama S., Kitagawa M., Nakayama K., Shirane M., Matsumoto M., Hattori K., Higashi H., Nakano H., Okumura K., Onoe K., Good R.A., Nakayama K.-I.;
                Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                           "Ubiquitin-dependent dedradation of IkB is mediated by a novel ubiquitin ligase SCFFWDI."; brock natl. Acad. Sci. U.S.A. 0:0-0(1999). EMBL: ARC08215; AADIG37.1; -. MGD; MGI:1351663; Skp2.
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Pred. No. 98;
0; Mismatches 2; Indels
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Connor R., Churcher C.M., Barrell B.G., Rajandream M.A.,
Submitted (DEC.1997) to the EMBL/GenBank/DDBJ databases.
-!- SIMILARITY: SOME, TO S.POMBE SPAC4G9.07.
EMBL; AL009197; CAA15728.1; --
Hypothetical protein.
SEQUENCE 432 AA; 49448 MW; C6CAEB860CCFDE9F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2; Indels
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01-JAN-1999 (TrEMBLrel. 09, Created)
01-JAN-1999 (TrEMBLrel. 09, Last sequence update)
01-JAN-1999 (TrEMBLrel. 09, Last annotation update)
01-JAN-1999 (TrEMBLrel. 09, Last annotation update)
HYPOTHETICAL 49.4 KDA PROTEIN C10F6.15 IN CHROMOSOME I.
SPACIOF6.15.
Schizosaccharcomyces pombe (Fission yeast).
Eukaryota; Fungi; Ascomycota; Schizosaccharomycetes;
Schizosaccharcomycetales; Schizosaccharomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               47766 MW; 5B7945C979D26AF9 CRC64;
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Pred. No. 1e+02;
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71.4%;
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Best Local Similarity 71.4%;
Matches 5; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE; PS50181; FBOX; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PF00646; F-box; 1.
                                                                                                                                                                                                                                                                                                                                                                                          MGD; MGI:1351663; Skp2.
InterPro; IPR001810; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                           IPR003592; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SMART; SM00370; LRR; SEQUENCE 424 AA; 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Schizosaccharomyces.
NCBL_TaxID=4896;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               424 AA;
                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
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275 QAAVAHL 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   142 QTAVSHL 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 QXAVXHL 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 QXAVXHL 8
                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             09Z3L6;
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042654
AC 042654;
DT 01-JAN.
DT 01-
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Indels

09Z3L6

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Q923L6 ID Q9 AC Q9 DT 01 RESULT

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Indels

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302 AA
                                                                                                                                                                                                              Synechocystis sp. (strain PCC 6803).
         PRT;
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                                                                                                                                                       HYPOTHETICAL 33.8 KDA PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        85.7%;
nilarity 57.1%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRELIMINARY;
         PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Streptomyces coelicolor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
Matches 4; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            [3]
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         [2]
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A. STRAIN=PCC6803;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | |: ||
90 QTAIAHL 96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 QXAVXHL 8
                                                                                                                                                                                                                                                                                                                                                                                              Tabata S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SCL2.01
                                                                                                                                                                                  SLL0310
         Q55655
Q55655;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q9L296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q9L296
         HD DDT TD DDT TD
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                                                                                                                                                                                                                                                                                                                                                                                        Glass J.I., Lefkowitz E.J., Glass J.S., Heiner C.R., Chen E.Y.,
Cassell G.H.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .;
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0
                                                                                                                                                 Ureaplasma parvum (Ureaplasma urealyticum biotype 1).
Bacteria; Firmicutes; Bacillus/Clostridium group; Mollicutes;
Mycoplasmataceae; Ureaplasma.
NCBL_TaxID-134821;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Thermomonospora fusca.
Bacteria; Firmicutes; Actinobacteria; Actinobacteridae;
Actinomycetales; Streptosporangineae; Thermomonosporaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                85.7%; Score 24; DB 2; Length 265; 71.4%; Pred. No. 1.1e+02; rive 0; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                               "The complete sequence of the mucosal pathogen Ureaplasma urealyticum.";
Nature 407:757-762(2000).
EMBL; AS002158; AAF31015.1; -.
InterPro; IPR000051; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 85.7%; Score 24; DB 2; Length 257; Best Local Similarity 71.4%; Pred. No. 1.1e+02; Matches 5; Conservative 0; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Spiridonov N.A., Wilson D.B., "PepA and dlhA genes from Thermobifida fusca."; Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pfam; PF00398; RrnaAD; 1.
PROSITE; PS01131; RRNA_A_DIMETH; 1.
SEQUENCE 257 AA; 29781 MW; 85F54A69404ECC4C CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                06C5A8E364BCDF8F CRC64;
01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
DIMETHARADENOSINE TRANSFERASE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-MAY-2000 (TrEMBLrel. 13, Created)
1-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-UN-2000 (TrEMBLrel. 14, Last annotation update)
PUTATIVE DIENELACTONE HYDROLASE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              265 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                                                                                                                                                                                                                                                                                                             STRAIN=SEROVAR 3;
MEDLINE=20500219; Pubmed=11048724;
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InterPro; IPR000379; -.
InterPro; IPR012925; -.
Pfam; PF01738; DLH; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                265 AA; 29069 MW;
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Best Local Similarity 71.4
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRELIMINARY;
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                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           177 QSAVIHL 183
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NCBI_TaxID=2021;
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09RA67; **09RA67**

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RESULT
Q9RA67
ID Q99RA67
ID Q99
DT Q11
DDT O11
DDT O11
DDT O11
DDT O11
DDT O11
DDT O12
DDT O12
DDT O13
DDT O14
DDT O14
DDT O14
DDT O14
DDT O15

SEQUENCE

RP RT DR DR DR SO SO

RESULT Q55655

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InterPro;

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Sequence analysis of the genome of the unicellular cyanobacterium Synechocystis sp. strain PCC6803. II. Sequence determination of the entire genome and assignment of potential protein-coding regions."; DNA Res. 3:109-136(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                        탈용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     'n
                                                                                                                                                                                                                                                                                                                                                                                                               Suginra M., Tabata S.;
"Sequence analysis of the genome of the unicellular cyanobact.
Synebhocystis ap. strain PCC6803. I. Sequence features in the region from map positions 64% to 92% of the genome.";
DNA Res. 2:153-166(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0:
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                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=96127529; PubMed=8590279;
Kaneko T., Tanaka A., Sato S., Kotani H., Sazuka T., Miyajima
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 302;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 24; DB 2; Length 302
Pred. No. 1.3e+02;
1; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
STRANIP-31(2);
Seeger K.J., Harris D.;
Substitled (JAN-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                Submitted (AUG-1995) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL, D64000; BAA10175.1; -.
InterPro, IPR000182; -.
Pfam; PF00583; Acetyltransf; 1.
Hypothetical protein.
SEQUENCE 302 AA; 33760 MW; 62D74D7F5B74564E CRC64;
                                                                                                                                                Bacteria; Cyanobacteria; Chroococcales; Synechocystis
NCBI_TaxID=1148;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-0CT-2000 (TrEMBLrel. 15, Created)
01-0CT-2000 (TrEMBLrel. 15, Last sequence update)
01-0CT-2000 (TrEMBLrel. 15, Last annotation update)
01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HYPOTHETICAL 37.4 KDA PROTEIN (FRAGMENT).
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SEQUENCE FROM N.A.
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us-09-630-333-8.rspt

SEQUENCE FROM N.A.

Query Match

RRA RRA RRA RRT RRT RRT RRT SQ SQ SQ

atches

09HAF9 Q9HAF9

RESULT 10 Q9HAF9

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Eukaryota; Euglenozoa; Kinetoplastida; Trypanosomatidae; Trypanosoma.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Arabidopsis thaliana (Mouse-ear cress).
Eukaryota, Viridiplantae, Embryophyta; Tracheophyta; Spermatophyta;
Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosids II;
Brassicales; Brassicaceae; Arabidopsis.
NCBI_TaxID=3702;
                                                                                                                                                                                                                                                                 ..
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
De Haan M., Maarse A.C., Grivell L.A., Mewes H.W., Lemcke K., Mayer K.F.X., Quetier F., Salanoubat M.; DDBJ databases.
Submitted (NOV-1999) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 24; DB 10; Length 476;
Pred. No. 2e+02;
0; Mismatches 2; Indels
                                                                                                                                                                                                                            Length 363
                                   Evans I.M., Bown D., Gupta A., Morby A.P., Whitton B.A., Gatehouse J.A.;
Submitted (DEC-1996) to the EMBL/GenBank/DDBJ databases.
EMBL; Y09889; CAA71029.1; -.
                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EU Arabidopsis sequencing project,
Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; AL132962; CAB71079.1; -.
InterPro; IPR000743; -.
InterPro; IPR001066; -.
                                                                                                                                                                       FAE7DB281D7E1BC9 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        51939 MW; 48233D8B48A4BEDD CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-0CT-2000 (TrEMBLrel. 15, Created)
1-0CT-2000 (TrEMBLrel. 15, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
HYPOTHETICAL 51.9 KDA PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-0CT-2000 (TIEMBLIEL 15, Created)
01-0CT-2000 (TIEMBLIEL 15, Last sequence update)
01-MAR-2001 (TIEMBLIEL 16, Last annotation update)
PROBABLE AXONEME CENTRAL APPARATUS PROTEIN.
                                                                                                                                                                                                                          Score 24; DB 2; Ler
Pred. No. 1.5e+02;
0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pfam; PF00295; Glyco_hydro_28; 1.
PROSITE; PS00217; SUGAR_TRANSPORT_2; UNKNOWN_1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                   476
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                                                                                                                                                                       43113 MW;
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Best Local Similarity 71.4%;
Matches 5; Conservative (
                                                                                                                                                                                                                        Query Match 85.7%;
Best Local Similarity 71.4%;
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRELIMINARY;
                                                                                                                                                    363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       il protein.
476 AA; 5
                                                                                                                                                                     363 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CHR1.235.
Trypanosoma brucei.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         [2]
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                       221 QEAVSHL 227
                                                                                                                                                  363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            65 QSAVDHL 71
                                                                                                                                                                                                                                                                                                  QXAVXHL 8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hypothetical
SEQUENCE 47
                                                                                                                                                    NON_TER
SEQUENCE
                                                                                                                                NON_TER
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                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q9M318;
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Q9N8N9
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                                                                                       MEDLINE-9700351; PubMed-8843436; Redenbach M., Kleser H.M., Denapaite D., Eichner A., Cullum J., Ranabhach M., Kleser H.M., Denapaite D., Eichner A., Cullum J., Kfunshi H., Hopwood D.A.; "A set of ordered cosmids and a detailed genetic and physical map for the 8 Mb Streptomyces coelicolor A3(2) chromosome."; MMCI. Microbiol. 21.77-96(1996).

EMBL, AL137778; CABT0913.1; -.
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Submitted (Aug-2000) to the EMBL/GenBank/DDBJ databases.

EMBL; AR021765; BAB1380.1; DF68202D85E6EC48 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
NCBI_TaxID=9606;
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01-JUN-1998 (TrEMBLrel. 06, Last sequence update)
01-JUN-1998 (TrEMBLrel. 07, Last annotation update)
HYPOTHETICAL 43.1 KDA PROTEIN (FRAGMENT).
Calothrix viguieri.
Bacteria, Cyanobacteria; Nostocales; Rivulariaceae; Calothrix.
                                                                                                                                                                                                                                                                                                                        Length 328;
Cerdeno A.M., Parkhill J., Barrell B.G., Rajandream M.A.; Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                  Score 24; DB 2; Length 320 Pred. No. 1.4e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 24; DB 4; Lengtn 34, Pred. No. 1.5e+02;
                                                                                                                                                                                                                                                               328 AA; 37352 MW; D60E937C5C48321F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (TrEMBLrel. 16, Last sequence update) (TrEMBLrel. 16, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              347 AA
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                                                                                                                                                                                                                                                                                                                                                           0; Mismatches
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01-MAR-2001 (TrEMBLrel. 16, Last seque
01-MAR-2001 (TrEMBLrel. 16, Last annot
CDNA FLJ11703 FIS, CLONE HEMBA1005075.
HOMO Sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
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TISSUE=WHOLE EMBRYO, MAINLY HEAD;
                                                                                                                                                                                                                                                                                                                      85.7%;
71.4%;
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71.4%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRELIMINARY;
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NON_TER 1
SEQUENCE 328 AA; 3
                                                        SEQUENCE FROM N.A.
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                                                                            STRAIN=A3(2);
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052936 052936;

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RESULT 11 052936 1D 052936 AC 052936 DT 01-JUN DT 01-JUN DT 01-AUG DE HYPOTH OS Caloth OC Bacter OX NCELT RN [1]

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                                                                                      Hall N., Bowman S., Quail M., Ivens A.C., Kay M.P., Bray-Allen S., Lennard N.J., Clark L.N., Harris B.R., Melville S., Lawson D., Gerrard C., Rajandream M.A., Barrell B.G.;
Submitted (JUN-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; AL359782; CAB95504.1; --
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                                                                                                                                                                                                                                                                                                                                               Score 24; DB 5; Length 513;
Pred. No. 2.2e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Halobacterium sp. (strain NRC-1).
Archaea; Euryarchaeota; Halobacteriales; Halobacteriaceae;
                                                                                                                                                                                                                                                                                                                                                                                             2; Indels
                                                                                                                                                                                                    InterPro; IPR000225; -.
Pfam: PR00514; Armadillo_seg; 8.
SMART: SM00185; ARM: 1.
SEQUENCE 513 AA; 56126 MW; 40BB4546A1B390C3 CRC64;
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SEQUENCE 614 Aa; 64802 MW; DAD585C50B14DAB2 CRC64;
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01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
DOLICHOLP-GLUCOSE SYNTHETASE.
DPG OR VNG0318G.
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Last annotation update)
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71.4%;
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01-MAY-2000 (TrEMBLrel. 13,
01-MAY-2000 (TrEMBLrel. 13,
01-MAR-2001 (TrEMBLrel. 16,
CG11880 PROTEIN.
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Best Local Similarity 71.4
Matches 5; Conservative
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Best Local Similarity
5; Conserve
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ACBI_TaxID=5691;
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208 QDAVTHL 214
                                                                     STRAIN-TREU927;
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Q9VAP3
ID Q9VAP3
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Adams N.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.I.
Adams N.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.I.
An analtides P.G., Scherer S.E., Li P.W., Hoskins R.A., Galle R.
George R.A., Lewis S.E., Holt R.A., Ashburner M., Hender.
Sutton G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.
A. Brandon R.C., Rogers Y.H.C., Blazel R.G., Champe M., Pfelli G.,
Na Brandon R.C., Rogers Y.H.C., Blazel R.G., Champe M., Pfelli G.,
Na Abril J.F., Agbayani A., An H.-J., Andrews-Pfannkoch C., Balli G. D.
Ballew R.M., Basu A., Baxman B.D., Barckatein P., Brottler F.
Burtis K.C., Busam D.A., Burler H., Cadieu E., Center A., Cliu.
Ballew R.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
A. Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
Burtis K.C., Busam D.A., Buller H., Cadieu E., Center A., Cliu.
Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
A. Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
A. Dodson K., Doup L.E., Downes M., Dugdan-Rocha S., Dunkov B.C.,
A. Dodson K., Doup L.E., Gownes M., Dugdan-Rocha S., Dunkov B.C.,
A. Durbin K.J., Bravey D., Helman T.J., Well M.-H., Ibegwam C.,
A. Rochi D., Holman T.J., Well M.-H., Ibegwam C.,
A. Kimmell B.E., Kodira C.D., Kraft C., Kravitz S.,
A. Alali M., Ralush F., Karpen G. H., Wellen M.-H., Ibegwam C.,
A. Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
A. Martel B.E., Kodira C.D., Kraft C., Kravitz S.,
A. Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
A. Rahlert K., Remignon K., Saunders R.D.C., Scheler F., Shen
A. Rahlert K., Remignon K., Saunders R.D.C., Scheler F., Shen
A. Rahler K., Remignon K., Saunders R.D.C., Scheler F., Shen
A. Mang Z.-Y., Wassarman D.A., Weinstock G.M., Weissenbach J.,
A. Williams S.M., Woodaye T., Worley K.C., Wu D., Yang S., Yar,
A. Williams S.M., Woodaye T., Worley K.C., Wu D., Shill S.,
A. Kander E.M., Stong W., Zhon M., Zhon S., Zho S., Zho S., Zho C., Scheler F.,
A. Sheng X.H., Zhong F.N., Zhong W., Zhon S., Zho S.,
Drosophila melanogaster (Fruit fly).
Bukaryota, Metazoa, Arthropoda, Tracheata; Hexapoda; Insta
Pterygota; Neoptera, Endopterygota; Diptera; Brachycera; Mus-
Ephydroidea; Drosophilidae, Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            85.7%; Score 24; DB 5; Length 796; 71.4%; Pred. No. 3.4e+02; ive 0; Mismatches 2; Indels
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MEDLINE=20196006; Pubmed=10731132;
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GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
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OM protein - protein search, using sw model

October 25, 2001, 11:25:21 ; Search time 76.25 Seconds (without alignments) 7.992 Million cell updates/sec Run on:

US-09-630-333-8 28

1 XQXAVXHL 8 Perfect score: Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

219241 seqs, 76174552 residues Searched:

219241 al number of hits satisfying chosen parameters:

length: 0 length: 2000000000 sed Minimum DB Maximum DB Post-processing: Minimum Match 08 Maximum Match 1008 Listing first 45 summaries

1: pir1:* 2: pir2:* 3: pir3:* 4: pir4:* Database

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES		Description	T37509 hypothetical prote						T48162 hypothetical prote		WQECPH phosphotransferase		S12749 phosphotransferase			pypo	hypothetical	hypothetical	DNA qlycosyla	variant				S71355 glucocorticoid-att	508 interferon alpha			ATP-depen	534	200
		<u>۾</u>	T37	F72	E83	S76	T47	D84	Τ46	D64	WOE	WOE	812	164	B85	A75	G71	T36	T35	S06	T44	C82	T06	S71	A55	D83	B71	A69	F83	727
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d	Query	Match	89.3	85.7	85.7	85.7	85.7	85.7	85.7	85.7	82.1	82.1	82.1	82.1	82.1	82.1	82.1			82.1						82.1		82.1	82.1	00
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ALIGNMENTS

ULT	509

hypothetical protein SPAC10F6.15 - fission yeast (Schizosaccharomyce: pombe) (Species: Schizosaccharomyces pombe C; Species: Schizosaccharomyces pombe C; Date: 03-Dec-1999 #text_change 03-Dec-1999 #ccession: T37509 R;Connor, R: Churcher, C.M.; Barrell, B.G.; Rajandream, M.A.; Wood V. Submitted to the EMBL Data Library, November 1997 A; Reference number: 221719 A; Reference number: 221719 A; Accession: T37509 A; Stellininary; translated from GB/EMBL/DDBJ

A;Molecule type: DNA A;Residues: 1-412 <CON> A;Cross-references: EMBL:AL009197; PIDN:CAA15728.1; GSPDB:GN00066; NPIDB:SPAC1 A;Experimental source: strain 972h-; cosmid c10F6 C;Genetics: A;Gene: SPDB:SPAC10F6.15

A; Map position: 1

aps ., Length 432; 2; Indels Score 25; DB 2; Pred. No. 44; 0; Mismatches 89.38; 5; Conservative Best Local Similarity Matches 5; Conserv Query Match

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2 QXAVXHL 8 ò

142 QTAVSHL 148 q

RESULT 2
P73321
bacitracin resistance protein - Thermotoga maritima (strain MSB8)
C;Species: Thermotoga maritima
C;Date: 11-Jun-1999 #sequence_revision 11-Jun-1999 #text_change 2 . .-200")
C;Accession: F73321
R;Welson, K.E.; Clayton, R.A.; Gill, S.R.; Gwinn, M.L.; Dodson, R.J.; Haft, D.H., H. Garrett, M.M.; Stewart, A.M.; Cotton, M.D.; Pratt, M.S.; Phillips, C A.; Richardson, Garrett, M.M.; Stewart, A.M.; Cotton, M.D.; Pratt, M.S.; Phillips, C A.; Richardson, C.B.; Richardson, R.D.; Pratt, M.S.; Phillips, C A.; Richardson, C.B.; Richardson, C.B.;

Nature 399, 323-329, 1999 Affille: Evidence for lateral gene transfer between Archaea and Rucheria from gr A;Reference number: A72200; MUID:99287316 A;Accession: F72321

A;Status: preliminary A;Molecule type: DNA

A; Moterials 17-237 ARNA A; Cross-references: GB:AE001754; GB:AE000512; NID:g4981417; PIDN:AA; 5974.1, P10.1, P. A; Experimental source: strain MSB8 A; Genetics: A; Genetics: A; Genetics: A; Genetics: C:Superfamily: Escherichia coli bacitracin resistance protein bac;

us-09-630-333-8.rpr

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85.7%;
71.4%;
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71.48;
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A; Introns: 155/1; 213/2; 237/1
A; Note: F2A19.90
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Matches 5; Conserv
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A;Molecule type: DNA
A;Residues: 1-614 <STO>
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A; Status: preliminary
A; Molecule type: DNA
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                                                                                                                                                                                                                                        dimethyladenosine transferase UU601 [imported] - Ureaplasma urealyticum
C;Species: Ureaplasma urealyticum
C;Date: 18-Aug-2000 #sequence_revision 20-Aug-2000 #text_change 02-Sep-2000
C;Accession: E82871
R;Glass, J.I.; Lefkowitz, E.J.; Glass, J.S.; Heiner, C.R.; Chen, E.Y.; Cassell, G.H. submitted to GenBank, February 2000
A;Description: The complete sequence of Ureaplasma urealyticum: Alternate views of a min
                                                                                                                                                                                                                                                                                                                                                                                                                      cession: E82871
Jatus: preliminary
Arolecule type: DNA
A:Residues: 1-257 CGLA>
A:Cross-references: GB.AE002158; GB:AF222894; NID:g6899599; PIDN:AAF31015.1; GSPDB:GN001
A:Experimental source: serovar 3; biovar 1
A:Genetics: A:Genetics: CGC3
C:Superimental source: SGC3
C:Superfamily: rRNA (adenine-N6-)-methyltransferase
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A;Accession: S76323
A;Status: nucleic acid sequence not shown; translation not shown
A;Molecule type: DNA
A;Residues: 1-302 <KANN
A;Residues: 1-302 <KANN
A;Cross-references: EMBL:D64000; GB:AB001339; NID:g1001484; PIDN:BAA10175.1; PID:g100154
A;Note: the nucleotide sequence was submitted to the EMBL Data Library, June 1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     aneko, T.; Sato, S.; Kotani, H.; Tanaka, A.; Asamizu, E.; Nakamura, Y.; Miyajima, N.;
K.; Okumura, S.; Shimpo, S.; Takeuchi, C.; Wada, T.; Watanabe, A.; Yamada, M.; Yasuda
Res. 3, 109-136, 1996
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A.Variety: PCC 6603
C.bate: 25-Apr.1997 #sequence_revision 25-Apr-1997 #text_change 20-Jun-2000
C.Accession: S76323
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85.7%; Score 24; DB 2; Length 237; 71.4%; Pred. No. 42; 1.4% O; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 257;
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Pred. No. 46;
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71.4%;
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Best Local Similarity 71.4
Matches 5; Conservative
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                  Best Local Similarity
Matches 5; Conserv
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Matches 4: Conserv
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38 QTAVLHL 44
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90 QTAIAHL 96
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C;Species: Halobacterium sp. NRC-1
C;Accession: D84191
C;Accession: D84191
R;Ng, W.V.; Kennedy, S.P.; Mahairas, G.G.; Berquist, B.; Pan, M.; Shukla, t.D.; Lasky
; Leithauser, B.; Keller, K.; Cruz, R.; Danson, M.J.; Hough, D.W.; Maddocks, D.G.; Ja
Jung, K.H.; Alam, M.; Freitas, T.
Proc. Natl. Acad. Sci. U.S.A. 97, 12176-12181, 2000
A;Authors: Hou, S.; Daniels, C.J.; Dennis, P.P.; Omer, A.D.; Ebhard! H.; Lowe, I.I.;
A;Title: Genome sequence of Halobacterium species NRC-1.
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C.Species: Arabidopsis thaliana (mouse-ear cress)
C.Species: 20-Apr-2000 #sequence_revision 20-Apr-2000 #text_change 20-Apr-2000
C.Accession: T48162
R.Bevan, M.; Pohl, T.; Weizenegger, T.; Bancroft, I.; Mewes, H.W.; Lumcke, K.; Mayer, submitted to the Protein Sequence Database, March 2000
A; Reference number: Z24486
A; Accession: T48162
A; Status: preliminary
A; Wolecule type: DNA
A; Residues: 1-1467 < ABEV
A; Residues: 1-1467 < ABEV
A; Experimental source: cultivar Columbia; BAC clone T1008
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 20-Apr-2000 #sequence_revision 20-Apr-2000 #text_change 20-Apr 2000;
C;Accession: T47941
R;De Haan, M; Maarse, A.C.; Grivell, L.A.; Mewes, H.W.; Lemcke, K., idayer, K.F. submitted to the Protein Sequence Database, January 2000
A;Reference number: Z24480
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C; Genetics:
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A;Cross-references: EMBL:AL132962
A;Experimental source: cultivar Columbia; BAC clone F2A19
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Pred. No. 1.2e+02;
0; Mismatches 2;
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Pred. No.
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Fri Oct

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63

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Rija, Z.; Quail, W.; Delbaere, L. submitted to the Brookhaven Protein Data Bank, October 1993
A;Reference number: A51916; PDB:1POH
A;Contents: annotation; X-ray crystallography, 2.0 angstroms, residues 1-85
A;Contents: annotation; X-ray crystallography, 2.0 angstroms, residues 1-85
B;Van Nuland, N.A.; Scheek, R.M.; Robillard, G.T.
submitted to the Brookhaven Protein Data Bank, February 1994
A;Reference number: A52364; PDB:1HDN
A;Contents: annotation; conformation by (1)H-, (13)C-, and (15)N ki. residues 1-85
A;Contents: annotation; conformation by (1)H-, (13)C-, and (15)N ki. residues 1-85
A;Mol. Biol. 237, 544-559, 1994
A;Title::The high-resolution structure of the histidine-containing physphocarnier pro
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A; Contents: annotation; conformation by (1)H-, (13)C-, and (15)N-N:
R; van Nuland, N.A.J.; Groetzinger, J.; Dijkstra, K.; Scheek, R.M.; Lillard, G.T.
Eur. J. Biochem. 210, 881-891, 1992
A; Title: Determination of the three-dimensional solution structure of the histidine-c A; Reference number: A58912; MUID: 93130914
A; Contents: annotation; conformation by (1)H-, (13)C-, and (15)N N:
S; van Nuland, N.A.J.; Scheek, R.M.; Robillard, G.T.
Submitted to the Brookhaven Protein Data Bank, August 1995
A; Reference number: A66357; PDB: 1PFH
                                                                                                                                                                                                                                                   the Escherichia coli phosphoenolpyruvate-de
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J. Bacteriol. 170, 3150-3157, 1988
A;Title: DNA sequences of the cysk regions of Salmonella typhimuri', and Escherichia A;Reference number: A28181; MUID:88257033
A;Reference number: G28181
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J. Bacteriol. 170, 3827-3837, 1988
A;Title: The ptsH; ptsI, and crr genes of the Escherichia coli phospH; A;Reference number: A32345; MUID:88314869
                                                                                                                                                                                                                                                                                                                                                                                                                     A;Molecule type: DNA
A;Residues: 1-85 <DER2>
A;Cross-references: GB:M21994; NID:g147261; PIDN:AAA24384.1; PID:g1
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A; Contents: annotation; conformation by (1)H-, (13)C-, and (15)N-NH:
R; Napper, S.; Delbaere, L.; Waygood, B.
submitted to the Brookhaven Protein Data Bank, August 1996
A; Reference number: A67665; PDB:10PD
A; Reference number: A67665; PDB:10PD
A; Contents: annotation; X-ray crystallography, 1.5 angstroms, resing R; Napper, S.; Anderson, J. W.; Georges, F.; Quail, J.W.; Delbaere,
Biochemistry 35, 11260-11267, 1996
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A;Accession: F65015
A;Status: nucleic acid sequence not shown; translation not shown
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A; Residues: 1-85 <BLAT>
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A; Residues: 1-85 <BYR>
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A; Authors: Gnehm, C.L.; McDonald, L.A.; Small, K.V.; Fraser, C.M.; Smith, H.O.; Venter, A; Reference number: A64000; MUD:95350630
A; Reference number: A64000; MUD:95350630
A; Reference number: A64000; MUD:95350630
A; Rocession: D64120
A; Relevance number: A64000; MUD:95350630
A; Rocession: D64120
A; Residues: 1-1510 <-TIGR>
A; Residues: 1-1510 <-TIGR>
A; Cross-references: GB:U32817; GB:L42023; NID:91574201; PIDN:AAC23022.1; PID:91574208; T. C; Genetics:
A; Genetics
A;Map position: 5
A;Introns: 68/2; 121/3; 152/3; 178/1; 234/2; 291/3; 331/3; 516/3; 698/3; 721/3; 760/3;
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pte: 18-Aug-1995 #sequence_revision 18-Aug-1995 #text_change 02-Feb-2001
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Pred. No. 3.3e+02;
); Mismatches 2; Indels
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Pred. No. 3.4e+02;
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71.48;
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71.4%;
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Best Local Similarity
Matches 5; Conserv
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J.; ij F')a, E.

mistidine-contai

residues 1-85

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Diosylotransferase system phosphohistidine-containing protein - Klebsiella pneumonia.

C;Species: Klebsiella pneumoniae
C;Accession: S12149
R;Titgemeyer, F.; Eisermann, R.; Hengstenberg, W.; Lengeler, J.W.
Nucleic Acids Res. 18, 1896, 1990
A;Title: The nucleotide sequence of ptsH gene from Klebsiella pneumoniae.
A;Reference number: S12749; MUID: 90245592
A;Roccession: S12749
A;R
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B85884
PTS system protein HPr [imported] - Escherichia coli (strain O157:H7)
C;Species: Escherichia coli
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Pred. No. 25;
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71.4%;
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Best Local Similarity 71.4
Matches 5; Conservative
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Best Local Similarity
Matches 5; Conserv
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A; Residues: 1-85 <SCHA
A; Residues: 1-85 <SCHA
A; Residues: 1-85 <SCHA
A; Roseman, S.
A; Cross-references: EMBL:X14737; NID:g47844; PIDN:CAA32865.1; PID:g47845
A; Cross-references: EMBL:X14737; NID:g47844; PIDN:CAA32865.1; PID:g47845
A; Cross-reference number: A22849; MuID:85080006
A; Reference number: A22849; MuID:85080006
A; Rocession: A22849
A; Molecule type: protein
A; Residues: 1-20, G', 22-84, 'z' <POW>
C; Comment: The phosphoenolpyruvate--glycose phosphotransferase system (PTS) comprises tw. tors (II-A/II-B or III/II), lipid, and divalent cation. The phosphoryl group is transfer ubstrate as it crosses the cell membrane.
C; Gene: ptsH
A; Map position: 49 min
C; Superfamily: phosphotransferase system phosphohistidine-containing protein; phosphotra C; Keywords: phosphotransferase system phosphotransferase system phosphotransferase system phosphotransferase system phosphotransferase system enzyme I) #8
F; H5/Binding site: phosphate (His) (covalent) #status predicted
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A:Title: Mutation of serine-46 to aspartate in the histidine-containing protein of Esche A:Reference number: A58915; MUID:96378616

A:Reference number: A58915; MUID:96378616

C:Comment: This protein is phosphorylated by the phosphotransferase system enzyme I (see systems.

C:Comment: This protein is phosphorylated by the phosphotransferase system enzyme I (see systems.

A:Gene: ptsH

A:Map position: 52 min

C:Superfamily: phosphotransferase system phosphohistidine-containing protein; phosphotransferase system phosphohistidine; phosphotransferase system phosphohistidine; phosphotransferase system phosphohistidine-containing protein homology of F:15/Binding site: phosphate (His) (covalent) #status predicted

F:46/Binding site: phosphate (Ser) (covalent) #status predicted
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Length 174; 2; Indels

7 DB 56;

0; Mismatches

Score 23; Pred. No.

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A;Cross-references: GB:AE001343; GB:AE001273; NID:q3329176; PIDN.A.:
A;Experimental source: serotype D, strain UW-3/Cx
C;Genetics:
A;Gene: CT724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Search completed: October 25, 2001, 11:25:22
Job time: 335 sec
                                                                                                                                                                                                                                                                       82.18;
71.48;
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Best Local Similarity 71.4
Matches 5; Conservative
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C;Species: Deinococcus radiodurans
C;Species: Deinococcus radiodurans
C;Species: Deinococcus radiodurans
C;Accession: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 28-Jul-2000
C;Accession: A75426
R;White, O.; Eisen, J.A.; Heidelberg, J.F.; Hickey, E.K.; Peterson, J.D.; Dodson, R.J.;
M.; Shan, M.; Vanathevan, J.J.; Lam, P.; McDonald, L.; Utterback, T.; Zalewski, C.; Ms Science 286, 1571-1577, 1999
Science 286, 1571-1577, 1999
A;Title: Genome sequence of the radioresistant bacterium Deinococcus radiodurans R1.
A;Reference number: A75426
A;Accession: A75426
C; Date: 16-Feb-2001 #sequence_revision 16-Feb-2001 #text_change 31-Mar-2001 C; Accession: B85884 R; Perna, N.T.; Plunkett III, G.; Burland, V.; Mau, B.; Glasner, J.D.; Rose, D.J.; Mayhew Iller, L.; Grobbeck, E.J.; Davis, N.W.; Lim, A.; Dimalanta, E.; Potamousis, K.; Apodaca, Nature, 409, 529-533, 2001 A; Feference number: A65480; MUID:21074935; PMID:11206551 A; Accession: B85884 Ascession: B85884 Ascession: B85884 A; Apodaca, A; Statuus: preliminary A; Molecule type: DNA A; Residues: 1-85 <STO>
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C;Species: Chlamydia trachomatis
C;Species: Chlamydia trachomatis
C;Species: Chlamydia trachomatis
C;Species: Chlamydia trachomatis
C;Date: 13-Sep-1998 #sequence_revision 13-Sep-1998 #text_change 08-Oct-1999
C;Accession: G71478
R;Stephens, R.S.; Kalman, S.; Lammel, C.J.; Fan, J.; Marathe, R.; Aravind, L.; Mitchell, Science 282, 754-759, 1998
A;Title: Genome sequence of an obligate intracellular pathogen of humans: Chlamydia trach A;Reference number: A71570; MUID:99000809
A;Accession: G71478
A;Accession
                                                                                                                                                                                                                                                                                                                                                                                                           A;Cross-references: GB:AE005174; NID:g12516791; PIDN:AAG57534.1; GSPDB:GN00145; UWGP:236
A;Experimental source: strain 0157:H7, substrain EDL933
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Status: preliminary
Molecule type: DNA
A;Readiues: 1-166 <WHIY
A;Cross-references: GB:AE001968; GB:AE000513; NID:g6458930; PIDN:AAF10769.1; PID:g645893
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C:Superfamily: Deinococcus radiodurans hypothetical protein DR1194
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Pred. No. 25;
0; Mismatches 2; Indels
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71.4%;
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Best Local Similarity 71.4%;
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Matches 5; Conservative
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| 144 QYAVIHL 150
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A,Gene: ptsH
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Fri Oct 26 10:30:17 2001
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Sequence 12, Appl
Patent No. 5217955
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Sequence 2, Appli
Sequence 4, Appli
Sequence 9, Appli
Sequence 10, Appl
Sequence 11, Appl
Sequence 14, Appl
Sequence 14, Appl
Sequence 15, Appl
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Patent No. 5
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GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd
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US-07-619-747B-2
US-07-619-747B-4
US-07-619-747B-5
US-07-619-747B-9
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US-07-619-747B-18
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US-08-168-390-12
                                                                                                                                                                                                                            al number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-08-263-905-12
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5217955-14
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US-09-019-942-1
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US-08-168-390-11
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                                                                     October 25, 2001, 11:23:56
                                                                                                                                                                                                                                                                                      Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

    protein search, using sw model

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Gapop 10.0 , Gapext 0.5
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28
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                                               OM protein
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Maximum DB
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No.
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Appl Appl Appl Appl	Appl Appl Appl Appl	Appl Appl Appl Appl	Appl Appl Appl Appl Appl	-
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US-07-619-747B-23 US-07-619-747B-24 US-07-619-747B-25 US-07-619-747B-26	US-07-619-747B-27 US-07-619-747B-28 US-07-619-747B-29 US-07-619-747B-30	US-07-619-747B-31 US-07-619-747B-32 US-07-619-747B-33 US-07-619-747B-34	US-07-619-747B-35 US-07-619-747B-36 US-07-619-747B-37 US-07-619-747B-39 US-07-619-747B-39 US-07-619-747B-39	
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28 29 30 31	32 33 34 35	36 33 39	0 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	

ALIGNMENTS

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Length 9;
                                      Sequence 12, Application US/08263905
Patent No. 5428018
GENERAL INFORMATION
PAPLICANT: Edwards, Judson V
APPLICANT: Fanger, Bradford D
TITLE OF INVENTION: Phenylalanine Analogs of Bombesin NUMBER OF SEQUENCES: 12
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/263,905
FILIAGO DATE: 22-JUN-1994
CLASSIFICATION: 514
RICH APPLICATION BATA:
APPLICATION NUMBER: US/7/833,834
FILIAG DATE: 07-FEB-1992
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                               ADDRESSEE: Marion Merrell Dow Inc.
STREET: 2110 East Galbraith Rd.
CITY: Cincinnati P. O. Box 156300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE/DOCKET NUMBER: M01614 US TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                       ZIP: 45215-6300
COMPUTER READABLE FORM:
MEDIUW TYPE: Floppy disk
COMPUTER: IBB PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEPHONE: (513) 948-7834
TELEFAX: (513) 948-7961
TELERX: 214320
INFORMATION FOR SEO ID NO: 12:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME: Collier, Kenneth J
REGISTRATION NUMBER: 34,
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US-08-263-905-12
                                                                                                                                                                                                                                                                                     Ohio
RESULT 1
US-08-263-905-12
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                                                                                                                                                                                                                                                                                                       COUNTRY:
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Score 24; DB 1; Le Pred. No. 1.5e+05; 0; Mismatches 2; Query Match
Best Local Similarity 71.4%;
Matches 5; Conservative

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2 QXAVXHL 8

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/note= "The amino-terminal residue comprises one of several chemical end c\omega_{P}.
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TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG
OF BOMBESIN, GRP, LITORIN OR NEUROMEDIN
NUMBER OF SEQUENCES: 4.2
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/520,225
FILING DATE: 09-MAX-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 440,039
FILING DATE: 21-W0V-1989
STLING DATE: 21-W0V-1989
FILING DATE: 15-SEP-1989
SEQ ID NO:35:
LENGTH: 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 23; DB 1; Length 8; Pred. No. 1.5e+05; 0; Mismatches 2; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OTHER INFORMATION: /note= "The alanine at position OTHER INFORMATION: is dextrorotatory alanine."
                           OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/168,390
                                                                                                                                CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: Goldstein, Jorge A.
REGISTRATION NUMBER: 29,021
REFERENCE/DOCKET NUMBER: 0871.0040001
TELECOMMUNICATION INFORMATION:
TELERAX: 2020 371-2600
TELER: 248636 SSK
INFORMATION FOR SEQ ID NO: 12:
SEQUENCE CHARACTERISTICS:
LENGTH: 8 maino acids
TYPE: analoo acid
TYPE: analoo acid
TYPE: analoo acid
         IBM PC compatible
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Best Local Similarity 71.4%;
Matches 5; Conservative (
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                                                                                                              FILING DATE: Herewith CLASSIFICATION: 530
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Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OTHER INFORMATION:
OTHER INFORMATION:
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CTHER INFORMATION:
CTHER INFORMATION:
US-08-168-390-12
      COMPUTER: IBM PC OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 QXAVXHL 8
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5217955-35
;Patent No. 5217955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURE:
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APPLICANT: Takahashi, Kazayuki
APPLICANT: Chandrasekhar, Bhaskar
TITLE OF INVENTION: Bombesin/Gastrin Releasing Peptide Antagonists
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                     Sequence 12, Application PC/TUS9300183
GENERAL INFORMATION:
APPLICANT: Edwards, Judson V
TITLE OF INVENTION: Phenylalanine Analogs of Bombesin
NUMBER OF SEQUENCES: 12
CORRESPONDENCE ADDRESS:
ADDRESSEE: Marion Merrell Dow Inc.
STREET: 2110 East Galbraith Rd.
CITY: Cincinnati P. O. Box 156300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           85.7%; Score 24; DB 5; Length 9; 71.4%; Pred. No. 1.5e+05; Live 0; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                              STATE: CONTRY: USA
COUNTRY: USA
CONDUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: HBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PAtentin Release #1.0, Version #1.25
COMPUTERT APPLICATION NUMBER: PCT/US93/00183
FTI.NG DATE: 19930107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               E: Sterne, Kessler, Goldstein & Fox 1100 New York Avenue, Suite 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE: 19930107
CLASSIFICATION:
ATTORNEY, AGENT INFORMATION:
NAME: COllier, Kenneth J
REGISTRATION NUMBER: 34,982
REFERENCE/DOCKET NUMBER: M01614 US
TELECOMMUTICATION INFORMATION:
TELEPHONE: (513) 948-7961
TELEFAX: (513) 948-7961
TELEFAX: (513) 948-7961
TELEFAX: (513) 948-7961
SEQUENCE CHARACTERISTICS:
LENGTH: 9 amino acids
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
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Best Local Similarity 71.4
Matches 5; Conservative
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MOLECULE TYPE: peptide
PCT-US93-00183-12
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1 | | | 3 QTAVGHL 9
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3 QTAVGHL 9
                                                                                   RESULT 2
PCT-US93-00183-12
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5217955-22
; PALCANT: aBOGDEN, ARTHUR E.; MOREAU, JACQUES-PIERRE
JITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG
; OF BOMBESIN GRP, LITORIN OR NEUROMEDIN
NUMBER OF SEQUENCES: 42
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/520,225
FILING DATE: 09-MAY-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 440,039
FILING DATE: 21-NOV-1989
SPILING DATE: 11-SEP-1989
                                                                                                                                                                                                                                                                                                                             RESULT 8
5217955.15
; Patent No. 5217955
; PATENT: aBOGDEN, ARTHUR E.; MOREAU, JACQUES-PIERRE
; TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG;
; OF BOMBESIN GRP, LITORIN OR NEUROMEDIN
NUMBER OF SEQUENCES: 42
; CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/520,225
FILING DATE: 09-MAY-1990
; RPICK APPLICATION NUMBER: 440,039
; FILING DATE: 21-NOV-1989
; FILING DATE: 115-SEP-1989
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Pred. No. 1.5e+05;
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Pred. No. 1.5e+05;
0; Mismatches 2; Indels
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APPLICATION NUMBER: 408,125
FILING DATE: 15-SEP-1989
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71.48;
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Best Local Similarity 71.4
Matches 5; Conservative
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Best Local Similarity
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Best Local Similarity
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2 QWAVAHL 8
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                                                                              LENGTH: 9
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                                                            ; SEQ ID NO:14:
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                                                                                              5217955-14
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5217955-13
; Patent No. 5217955
; APPLICANT: aBOGDEN, ARTHUR E.; MOREAU, JACQUES-PIERRE
; TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG
; OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG
; OF INVENTION OF NEUROMEDIN
; APPLICATION NUMBER: 42
; APPLICATION NUMBER: 440,039
; PLING DATE: 09-MAY-1990
; PRIOR APPLICATION NUMBER: 440,039
; FILING DATE: 21-NOV-1989
; APPLICATION NUMBER: 408,125
; FILING DATE: 15-SEP-1989
                                                                                                       FAUCHL NO. 221/29

FAUCHL NO. 221/29

APPLICANT: ABGGDEN, ARTHUR E.; MOREAU, JACQUES-PIERRE

TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG

FOR BOMBBEIN, GRP, LITORIN OR NEUROMEDIN

NUMBER OF SEQUENCES: 42

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/520,225

FILLING DATE: 09-MAX-1990

PRIOR APPLICATION NUMBER: 440,039

FILLING DATE: 21-NOV-1989

APPLICATION NUMBER: 400,125

FILLING DATE: 15-SEP-1989

SEQ ID NO:36:
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APPLICANT: aBOGDEN, ARTHUR E.; MOREAU, JACQUES-PIERRE
TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG
OF BOMBESIN, GRP, LITORIN OR NEUROMEDIN
NUMBER OF SEQUENCES: 42
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/520,225
FILING DATE: 09-MAY-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 440,039
                                                                                                                                                                                                                                                                                                                                                                                                                                              82.1%; Score 23; DB 6; Length 8; 71.4%; Pred. No. 1.5e+05; Live 0; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 23; DB 6; Length 9;
Pred. No. 1.5e+05;
0; Mismatches 2; Indels
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71.4%;
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Best Local Similarity 71.4
Matches 5; Conservative
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Best Local Similarity 71.4
Matches 5; Conservative
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                                                                                            ; Patent No. 5217955
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LENGTH: 9
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5217955-36
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Ouery Match
Best Local Similarity 71.*.
5, Conservative
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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CITY: Washington
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TOPOLOGY:
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US-08-168-390-11
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Patent No. 6197548
GENERAL INFORMATION:
APPLICANT: CLARE, JEFFREY J.
ROMANOS, MICHAEL A.
TITLE OF INVENTION: EXPRESSION OF HETEROLOGOUS PROTEIN IN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      82.1%; Score 23; DB 3; Length 540; 71.4%; Pred. No. 3.8e+02; rive 0; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS:
ADDRESSEE: Millen, White, Zelano & Branigan, P.C. STREET: 2200 Clarendon Blvd., Suite 1400
               Sequence 1, Application US/09019942
| Patent No. 6033855
| GENERAL INFORMATION:
APPLICANT: Bettin, John
TITLE OF INVENTION: DOMAIN POLYPEPTIDES
| NUMBER OF SEQUENCES: 4
| CORRESPONDENCE ADDRESS: 4 CORRESPONDENCE ADDRESS: Fish & Richardson P.C. STREET: 255 Franklin Street
| CITY: Boston
                                                                                                                                                                                                                                                                  ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: Windows 95
OPERARIE: FASTEM: Windows Version 2.0b
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION NUMBER: US/09/019,942
FILING DATE: 06-FEB-1998
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
ATTORNEY/AEGNT INFORMATION:
NAME: Meiklejohn, Ph.D., Anita L.
REGISTRATION NUMBER: 35,288
REFERENCE/DOCKET NUMBER: 07334/068001
TELECOMMUNICATION INFORMATION:
TELECHONE: 617/542-6970
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      YEAST
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TELEX: 200154
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
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COMPUTER READABLE FORM:
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amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY: USA
                                                                                                                                                                                                               STATE: MA
COUNTRY: USA
TTO 02110-2804
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US-08-460-269C-2
US-09-019-942-1
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WEDJUN TYPE: Floppy disk

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The sequence contains at position 1 a pyroglutamate, rather than a glutamate, and has an methylester C-terminus (i.e., COYOCH3), rather than a carboxyl C-terminus (i.e., COYOH).
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TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG
JOE BOMBESIN, GRP, LITORIN OR NEUROMEDIN
NUMBER OF SEQUENCES: 42
CURRENT APPLICATION DATA:
APPLICATION NUMBER: 02/08/520,225
FILING DATE: 09-MAY-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 440,039
FILING DATE: 21-NOV-1989
APPLICATION NUMBER: 408,125
FILING DATE: 15-SEP-1989
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TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOS
OF BOMBESIN, GRY, LITORIN OR NEUROMEDIN
NUMBER OF SEQUENCES: 42
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/520,225
FILING DATE: 09-MAY-1990
PRIOR APPLICATION NUMBER: 440,039
FILING DATE: 21-NOV-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             78.6%; Score 22; DB 2; Length 8; 71.4%; Pred. No. 1.5e+05; ive 0; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           78.6%; Score 22; DB 6; 171.4%; Pred. No. 1.5e+05;
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                                                                                                  00537/00900D
                              NAME: Clark, Paul T.
REGISTRATION NUMBER: 30,162
REFERENCE/DOCKET NUMBER: 0053;
TELECOMMUNICATION INFORMATION:
TELEFRAX: (617) 542-5070
TELEFRAX: (617) 542-806
TELEX: 200154
TELEX: 200154
TELEX: 200154
SEQUENCE CHARACTERISTICS:
   ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 78.6
Best Local Similarity 71.4
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity 71.4
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTHER INFORMATION:
COTHER INFORMATION:
COTHER INFORMATION:
US-08-337-127-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                           TYPE: amino acid
STRANDEDNESS:
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2 QXAVXHL 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | || || ||
2 QWAVGHL 8
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2 QWAVGHL 8
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5217955-34
;Patent No. 5217955
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5217955-32
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                                                             /note= "The amino-terminal residue comprises one of several chemical end caps."
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0
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                                                                                                                                                                                                                                                        residue comprises an ethyl ester."
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STATE: MASSACHUSELTS
COUNTRY: U.S.A.
ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: IBM PS/2 Model 50Z or 55SX
OOFWARE: WORDERFECT IBM P.C. DOS (Version 3.30)
SOFTWARE: WORDERFECT (VERSION 5.0)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/337,127
FILING DATE: US/08/337,127
FILING DATE: 10/18/91
APPLICATION NUMBER: 07/779,039
FILING DATE: 03/30/90
APPLICATION NUMBER: 07/376,555
FILING DATE: 08/21/89
APPLICATION NUMBER: 07/376,555
FILING DATE: 03/20/90
APPLICATION NUMBER: 07/376,555
FILING DATE: 03/20/99
APPLICATION NUMBER: 07/376,555
FILING DATE: 12/09/88
                                        CTHER INFORMATION: /note= "The amino-terminal representation of the program of th
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 9, Application US/08337127
Patent NO. 587277
Aptent No. 587277
APPLICANT: COY, David H.
APPLICANT: Moreau, Jacques-Pierre
APPLICANT: Kim, Sun H.
TITLE OF INVENTION: OCTAPEPTIDE BOMBESIN
TITLE OF INVENTION: ANALOGS
NUMBER OF SEQUENCES: 11
CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson
STRRET: 225 Franklin Street
CITY: Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLIANT DATE: 06/16/8b
FILING DATE: 06/16/8b
APPLICATION NUMBER: 07/204,171
FILING DATE: 06/08/88
APPLICATION NUMBER: 07/173,311
FILING DATE: 03/25/88
APPLICATION NUMBER: 07/100,571
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FILING DATE: 09/25/C.
APPLICATION NUMBER: 07/207/15/207/16/88
TIME DATE: 06/16/88
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APPLICATION NUMBER: 07/248,771
FILING DATE: 09/23/88
APPLICATION NUMBER: 07/207,759
                                                                                                                                                                                                                                                                                                                                                                                   Query Match 78.6%;
Best Local Similarity 71.4%;
Matches 5; Conservative (
Modified-site
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STATE: MA
COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-08-337-127-9
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; APPLICATION NUMBER: 408,125
; FLLING DATE: 15-SEP-1989
; SEQ ID NO:34:
; LENGTH: 8
5217955-34
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Query Match 78.6%; Score 22; DB 6; Length 8; Best Local Similarity 71.4%; Pred. No. 1.5e+05; Matches 5; Conservative 0; Mismatches 2; Indels 2 QXAVXHL 8 | | | | | 2 QWAVGHL 8

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0; Gaps

qq

Search completed: October 25, 2001, 11:23:56 Job time: 269 sec

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GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
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 protein search, using sw model OM protein October 25, 2001, 11:25:22 ; Search time 76.25 Seconds (without alignments) 7.992 Million cell updates/sec Run on:

US-09-630-333-9 40 1 XQWXVGHL 8 Title: Perfect score: Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

219241 seqs, 76174552 residues Searched:

l number of hits satisfying chosen parameters:

seq length: 0 seq length: 200000000 Minimum DB Maximum DB

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

PIR_68:*
1: pir1:*
2: pir2:*
3: pir3:*
1: pir4:* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

ū	Description	bombesin - fire-be	bombesin precursor	bombesin precursor	hypothetical prote	hypothetical prote	litorin I - Austra	bombesin-like pept	ranatensin precurs	neuromedin C - lau	neuromedin C - bov	gastrin-releasing	gastrin-releasing	gastrin-releasing	gastrin-releasing	bombesinlike pepti	gastrin-releasing	gastrin-releasing	gastrin-releasing	gastrin-releasing	gastrin-releasing	leucine transport	hypothetical prote	glutamate 5-kinase	transfer complex p	DNA topoisomerase	exodeoxyribonuclea	hypothetical prote	matrix protein M2	matrix protein M2
SUMMAKIES	ID	BSTD	BSTDY	A39261	S32963	T48787	S07204	A60409	B28945	PQ0177	A60647	S06263	RHPGA	RHGPGA	RHCHA	A47201	147010	A26182	A40922	B26182	A42437	QRECLH	H86012	G83074	A56976	C84073	NCECXV	A85934	MFIV2	MFIVB2
	DB	: -	Н	7	7	7	7	7	7	7	7	7	٦	7	Н	7	7	7	7	-	7	-	~	~	~	7	Н	~	-	
	Query Match Length	14	107	119	232	256	σ	13	82	10	10	25	27	27	27	120	134	138	147	148	155	308	308	372	700	721	1122	1122	195	195
dр	Query Match	95.0	95.0	95.0	0.06	90.0	85.0	85.0	85.0	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	80.0	80.0
	Score	38	38	38	36	36	34	34	34	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33		32	32
	Result No.	-	7	e	4	S	9	7	œ	თ	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	56	27	28	59

matrix Feet	matrix profeto.	alpha-L abinct.	hypother wal no	litorin Glu	probable witrie	DNA to some	RNA vita DOLYHE	hypothe al prote	qenome protei	hypother in president	7	٠.	probable methy itr	hypothet cal po	palmite profess
MFIV2C	MFIV2W	G72395	T50315	S07205	B70682	G64068	B43963	S13553	S16449	T03977	A64822	E85594	T49734	T16231	A54717
1	٦	7	7	7	~	7	~	7	Н	~	_	7	7	7	7
195	195	484	780	σ	563	651	1951	2150	2151	150	198	198	293	295	306
80.0	80.0	80.0	80.0	77.5	77.5	77.5	77.5	77.5	77.5	75.0	75.0	75.0	75.0	75.0	75.0
32	32	32	32	31	31	31	31	31	31	30	30	30	30	30	30
30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

RESULT BSTD

-		
	bombesin - fire-bellied toad	
	C; Species: Bombina bombina (fire-bellied toad)	
	1981 #text_change .	
-	C; Accession: A01564	
	R; Anastasi, A.; Erspamer, V.; Bucci, M.	
_	Arch. Biochem. Biophys. 148, 443-446, 1972	
_	A; Title: Isolation and amino acid sequences of alytesin and bombo	
_	A; Reference number: A01564; MUID:72163516	
	A; Accession: A01564	
	A; Molecule type: protein	
	A; Residues: 1-14 <ana></ana>	
	C; Superfamily: gastrin-releasing peptide	
_	C; Keywords: amidated carboxyl end; cutaneous gland; hormone; neuro, p	=
_	F;1/Modified site: pyrrolidone carboxylic acid (Gln) #status exper	
_	E:14/Modified site: amidated carboxyl end (Met) #status experimental	_

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.}dab∴ *:* Length 14; 1; Indels DB 1; 0.078; 0; Mismatches Score 38; Pred. No. (95.0%; 85.7%; Query Match Best Local Similarity 85.7°, ".hes 6; Conservative

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2 QWXVGHL 8 g ò

RESULT

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Dombesin precursor - yellow-bellied toad
C; Species: Bombina variegata (yellow-bellied toad)
C; Date: 31-Dac-1991 #sequence_revision 01-Dec-2000 #text_change uc .v.c..
C; Accession: S09095; B01564; A01564
R; Richter, K.; Egger, R.; Kreil, G.
FBBS Lett. 262, 353-355, 1990
A; Title: Molecular cloning of a cDNA encoding the bombesin precution in since any angle of a cDNA encoding the bombesin precution in since any angle of a cDNA encoding the bombesin precution in since any angle of a cDNA encoding the bombesin precution in since any angle of a cDNA encoding the bombesin precution in since any angle of a cDNA encoding the bombesin precution in since any angle of a cDNA encoding the bombesin in since any angle of a cDNA encoding the bombesin in since and encoding encodi

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A. Molecule type: protein A. Residues: 42-55 <ANA> (S. Superfamilly: ranatensin C. Keywords: amidated carboxyl end; cutaneous gland; hormone; neumaryl e. 1-24/Domain: signal sequence #status predicted <SIG>F;1-24/Domain: amino-terminal propeptide #status predicted <PRO

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Gaps

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C; Accession: T488787
R; Schulte, U.; Aign, V.; Hoheisel, J.; Brandt, P.; Fartmann, B.; Holland, R.; Nyakatu submitted to the Protein Sequence Database, April 2000
A; Reference number: Z24541
A; Accession: T48787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Cyacession: S07204
R;Anastasi, A.; Erspaner, V.; Endean, R.
Experientia 31, 510-511, 1975
A;Title: Aminoacid composition and sequence of litorin, a bombesin-like nonapepting A;Accession: S07204; MUID:75187011
A;Accession: S07204
A;Molecule type: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C;Species: Pseudophryne guentheri
C;Date: 30-Jan-1993 #sequence_revision 30-Jan-1993 #text_change 18-Auy-2000
C;Accession: A60409
R;Simmaco, M.; Severini, C.; De Biase, D.; Barra, D.; Bossa, F.; Roberts, J.D.; Hi,
                                                                                                                                                                                                                                                 C;Species: Neurospora crassa
C;Date: 05-May-2000 #sequence_revision 05-May-2000 #text_change 28 Jul-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C;Species: Litoria aurea
C;Date: 12-Feb-1993 #sequence_revision 12-Mar-1993 #text_change 18-Aug-2-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCSP:13E11.350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Map position: 2
A;Introns: 213/2
C;Superfamily: Neurospora crassa hypothetical protein 13E11.350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 256
                   Indels
                                                                                                                                                                                                                        hypothetical protein 13E11.350 [imported] - Neurospora crassa
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A60409
bombesin-like peptide L - frog (Pseudophryne guentheri)
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Pred. No. 2.2e+05;
0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Cross-references: EMBL:AL353820; GSPDB:GN00112; N A;Experimental source: cosmid contig 13E11; strain C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 36; DB 2
Pred. No. 4.1;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         litorin I - Australian tree frog (Litoria aurea)
                   Mismatches
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83.3%;
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                 Conservative
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Matches 5; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity
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                                                                                                      139 QWCVGHL 145
                                                                                                                                                                                                                                                                                                                                                                                                               A;Status: preliminary
A;Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          162 QWCVGHL 168
                                                          2 QWXVGHL 8
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F;42-55/Product: bombesin #status experimental <MAT>
F;56-107/Domain: carboxyl-terminal propeptide #status predicted <CPT>
F;42/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status experimen F;55/Modified site: amidated carboxyl end (Met) (amide in mature form from following gly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cession: A39261

Nypindel, E.R.; Gibson, B.W.; Reeve Jr.; J.R.; Kelly, M.

Proc. Natl. Acad. Sci. U.S.A. 87, 9813-9817, 1990

A;Title: Cloning of cDNAs encoding amphibian bombesin: evidence for the relationship bet A;Reference number: A39261; MUID:91088602

A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Riboignon, F.; Biteau, N.; Crouzet, M.; Aigle, M.
Yeast 9, 189-189, 1993
A;Title: The complete sequence of a 19,482 bp segment located on the right arm of chromc
A;Reference number: S29348; MUID:93220397
A;Accession: S32963
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                                                                                                                                                                                                                                                                                                                                                                                                                           Species: Bombina orientalis
hte: 18-Oct-1991 #sequence_revision 18-Oct-1991 #text_change 24-Sep-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             hypothetical protein YBR261c - yeast (Saccharomyces cerevisiae)
N:Alternate names: hypothetical protein YBR1729
Capecies: Saccharomyces cerevisiae
Le: 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_change 28-Jul-2000
cession: S32963; S46142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Cross-references: EMBL:X70529; NID:q1907246; PIDN:CAA49926.1; PID:g296560 R;Aigle, M.; Baclet, M.C.; Barthe, C.; Bitcau, N.; Crouzet, M.; Doignon, F. submitted to the Protein Sequence Database, August 1994
A;Reference number: $45940
                                                                                                                                                                                                  Gaps
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A;Residues: 1-119 <SPI>
A;Cross-references: GB:M55255; NID:g211016; PIDN:AAA48551.1; PID:g211017
C;Superfamily: ranatensin
C;Keywords: neuropeptide
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                                                                                                                                          95.0%; Score 38; DB 1; Length 107; 85.7%; Pred. No. 0.65; 1; Indels ive 0; Mismatches 1; Indels
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Pred. No. 3.7;
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Pred. No. 0.72;
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85.7%;
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85.78;
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                                                                                                                                          Query Match
Best Local Similarity 85.7
Matches 6; Conservative
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Best Local Similarity
Matches 6; Conserv
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A; Residues: 1-232 <AIG>
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Best_Local Similarity
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A;Map position:
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A;Note: the sequence from the summary is inconsistent with that from table I and 'abi
C;Superfamily: gastrin-releasing peptide
C;Keywords: neuropeptide
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                                                                                                                                                                                        neuromedin C - bovine
C;Species: Bos primigenius taurus (cattle)
C;Date: 14-May-1993 #sequence_revision 14-May-1993 #text_change 07
C;Accession: A60647
R;Lemaire, S.; Trifaro, J.M.; Chouinard, L.; Cecyre, D.; Dessureauli
Peptides 10, 355-360, 1989
A;Title: Structural identification, subcellular localization and s'A;Reference number: A60647; MUID:89331342
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N;Contains: neuromedin C
N;Contains: sus scrofa domestica (domestic pig)
C;Species: Sus scrofa domestica (domestic pig)
C;Accession: A01562; A32738; C60301
K;McDonald, T.J.; Jornvall, H.; Nilsson, G.; Vagne, M.; Ghatei, M. Biochem. Biophys. Res. Commun. 90, 227-233, 1979
A;Title: Characterization of a gastrin releasing peptide from pon A;Reference number: A01562; MUID:80042433
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A;Residues: 1-10 <LEM>
A;Note: this neuropeptide was purified from secretory granules
C;Superfamily: gastrin-releasing peptide
C;Keywords: adrenal gland; neuropeptide
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Pred. No. 0.59;
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A; Residues: 1-27 <MCD>
R; Minamino, N, Kangawa, K.; Matsuo, H.
Biochem. Biophys. Res. Commun. 119, 14-20, 1984
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Pred. No.
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83.3%;
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Best Local Similarity
Execute 5; Conserve
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19 WAVGHL 24
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                      4 WAVGHL 9
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Peptides 11, 299-304, 1990
A;Title: Six novel tachykinin- and bombesin-related peptides from the skin of the Austra A;Feference number: A60409; MUID:90287814
A;Accession: A60409
A;Molecule type: protein
A;Residues: 1-13 < SIM>
C;Superfamily: unassigned animal peptides
C;Superfamily: unassigned carboxyl end; hormone; neuropeptide; pyroglutamic acid
F;1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
F;13/Modified site: amidated carboxyl end (Met) #status experimental
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C; Species: Rana pipiens (northern leopard frog)
C; Date: 30-Jun-1989 #sequence_revision 30-Jun-1989 #text_change 24-Sep-1999
C; Accession: B28945
B; Krane, I.M.; Naylor, S.L.; Helin-Davis, D.; Chin, W.W.; Spindel, E.R.
J. Biol. Chem. 263, 13317-13323, 1988
A; Title: Molecular cloning of cDNAs encoding the human bombesin-like peptide neuromedin A; Reference number: A92667; MUID:88330837
A; Molecule type: mRNA
A; Molecule type: mRNA
A; Residues: 1-82 < KRA>
A; Cross-references: GB:M21552; GB:J03948; NID:g213693; PIDN:AAA49533.1; PID:g213694
C; Superfamily: ranatensin
C; Keywords: neuropeptide
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C; Species: Rana ridibunda (laughing frog)
C; Species: Rana ridibunda (laughing frog)
C; Species: 23-Nov-1991 #sequence_revision 23-Nov-1991 #text_change 11-Jan-2000
C; Accession: P00177
B; Conlon, J.M.; O'Harte, F.; Vaudry, H.
B; Conlon, J.M.; O'Harte, F.; Vaudry, H.
B; Conlon, J.M.; O'Harte, F.; Vaudry, H.
A; Conlon, J.M.; O'Harte, F.; Vaudry, H.
A; Reference number: P00177; MUD:91315477
A; Reference number: P00177; MUD:91315477
A; Residues: 1-10 <CON>
A; Reperimental source: Drain
C; Superfamily: gastrin-releasing peptide
C; Keywords: amidated carboxyl end
F; 10/Modified site: amidated carboxyl end (Met) #status predicted
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83.3%; Pred. No. 0.59;
iive 0; Mismatches 1; Indels
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0; Mismatches
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Search completed: October 25, 2001, 11:25:22 Job time: 335 sec
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C;Date: 31-Dec-1992 #sequence_revision 31-Dec-1992 #text_change 20-Mar-1998
C;Accession: A60206
R;Shaw, C; Thim, L; Conlon, J.M.
J. Neurochem. 49, 1348-1354, 1987
A;Title: Primary structure and tissue distribution of guinea pig gastrin-releasing pepti A;Reference number: A60206; MUID:88034997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Wolecule type: protein
A;Residues: 1-27 <SHA>
A;Note: the carboxyl-terminal residue was not determined directly, but an alpha-amidated
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A; Residues: 1-27 <MCD>
R; Campbell, B.J.; Young, J.; Dimaline, R.; Dockray, G.J.
Biochim. Biophys. Acta 1048, 66-71, 1990
A; Title: Isolation, sequence and biosynthetic significance of a novel fragment of gastri
A; Reference number: S08150; MUID:90122926
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Microtains: proventricular peptide - chicken (fragment)
N;Contains: proventricular peptide
C;Species: Gallus gallus (chicken)
C;Date: 2B-Feb-1981 #sequence_revision 19-Apr-1996 #text_change 19-Apr-1996
C;Accession: A01563; S08150
R;McDonald, T.J.; Jornvall, H.; Ghatei, M.; Bloom, S.R.; Mutt, V.
R;EBS Lett. 122, 45-48, 1980
A;Title: Characterization of an avian gastric (proventricular) peptide having sequence h; Reference number: A01563; MUD:81164953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C;Superfamily: gastrin-releasing peptide
C;Keywords: amidated carboxyl end; brain; hormone; intestine; neuropeptide; stomach
F;18-27/Product: neuromedin C #status predicted <NEU>
F;27/Modified site: amidated carboxyl end (Met) #status predicted
A;Title: Neuromedin C: a bombesin-like peptide identified in porcine spinal cord. A;Reference number: A32738; MUID:84153890
A;Accession: A32738
A;Accession: A32738
A;Asolecule type: protein
A;Residues: 18-27 cMIN>
C;Superfamily: gastrin-releasing peptide
C;Superfamily: gastrin-releasing peptide
F:1-27/Product: gastrin-releasing peptide #status experimental cMAT>
F:18-27/Product: neuromedin C #status experimental cMRU>
F:27/Modified site: amidated carboxyl end (Met) #status experimental
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Best Local Similarity 83.3
Matches 5; Conservative
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A; Molecule type: protein
A; Residues: 1-27 <CAM>
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C; Accession: A47201
R; Wechselberger, C.; Kreil, G.; Richter, K.
R; Wechselberger, C.; Kreil, G.; Richter, K.
R; Wechselberger, C.; Kreil, G.; Richter, K.
A; Title: Isolation and sequence of a cDNA encoding the precursor of a the circumstance of a characteristic mulber: A7201; MUID:93028554
A; Accession: A47201
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C;Species: Xenopus laevis (African clawed frog)
C;Date: 21-Sep-1993 #sequence_revision 18-Nov-1994 #text_change 04-Sej-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A)Status: preliminary
A)Molecule type: nucleic acid
A;Residues: 1-120 <WEC>
A;Note: sequence inconsistent with the nucleotide translation
A;Note: sequence extracted from NCBI backbone (NCBIN:115857, NCBIP:115858)
C;Superfamily: ranatensin
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   C;Superfamily: gastrin-releasing peptide
C;Keywords: amidated carboxyl end; neuropeptide
F:1-27/Product: proventrioular peptide #status experimental <PVPy>
F:27/Modified site: amidated carboxyl end (Met) #status experimental
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Pred. No. 7.8;
1; Mismatches 1; Indels
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C; Superfamily:
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Sequence 9, Appli
Patent No. 5217955
Sequence 1, Appli
Sequence 2, Appli
Sequence 5, Appli
Sequence 9, Appli
Sequence 11, Appl
Sequence 12, Appl
Sequence 17, Appl
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Sequence 21, Appl
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Sequence 22, Appl
Sequence 23, Appl
Sequence 24, Appl
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Sequence 28, Appl
Sequence 29, Appl
Sequence 30, Appl
Sequence 31, Appl
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(without alignments)
2.567 Million cell updates/sec
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3: /cgn2_6/ptodata/2/iaa/6A_COMB.pep:*
4: /cgn2_6/ptodata/2/iaa/6B_COMB.pep:*
5: /cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*
6: /cgn2_6/ptodata/2/iaa/pcTuS_COMB.pep:*
GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd
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US-07-619-747B-29

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Maximum Match 100%
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/note= "The amino-terminal residue comprises one of several chemical end out

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/note= "The carboxy-terminal
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TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOS
OF BOMBESIN, GRP, LITORIN OR NEUROMEDIN
NUMBER OF SEQUENCES: 42
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/520,225
FILING DATE: 09-MAY-1990
PRIOR APPLICATION NUMBER: 440,039
FILING DATE: 21-NOV-1989
APPLICATION NUMBER: 408,125
FILING DATE: 15-SEP-1989
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FILING DATE: 09-MAY-1990
PROOR APPLICATION DATA:
APPLICATION NUMBER: 440,039
FILING DATE: 21-NOY-1989
APPLICATION NUMBER: 408,125
FILING DATE: 15-SEP-1989
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Similarity 85.7%;
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OTHER INFORMATION:
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COTHER INFORMATION:
US-08-337-127-9
TYPE: amino acid STRANDEDNESS:
                                                               TOPOLOGY: linear
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2 QWAVGHL 8
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2 OWAVGHL 8
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                                                                                                                                                                                                                                                                                                                        Query Match
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5217955-32
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                                                                                     Gaps
                                                                                  0;
                                                                                  1; Indels
                           Length 8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY: U.S.A.
ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: IBM PS/2 Model 502 or 55SX
OPERATING SYSTEM: IBM P.C. DOS (Version 3.30)
SOFTWARE: WORDERFECT (Version 5.0)
CURRENT APPLICATION DATA:
               Score 38; DB 1; I
Pred. No. 1.5e+05;
0; Mismatches 1
                                                                                                                                                                                                                                                                                                                                  Sequence 9, Application US/08337127
Patent No. 5877277
GENERAL INFORMATION:
APPLICANT: COY, David H.
APPLICANT: Moreau, Jacques-Pierre
APPLICANT: Kim, Sun H.
TITLE OF INVENTION: OCTAPEPTIDE BOMBESIN
TITLE OF INVENTION: ANALOGS
NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TORNEY Accept.
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APPLICATION DATA:
APPLICATION NUMBER: 07/779,039
FILING DATE: 10/18/91
APPLICATION NUMBER: 07/502,438
FILING DATE: 03/30/90
APPLICATION NUMBER: 07/397,169
FILING DATE: 08/21/89
APPLICATION NUMBER: 07/376,555
FILING DATE: 07/07/89
APPLICATION NUMBER: 07/317,941
FILING DATE: 03/02/89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US/08/337,127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE: 10/14/88

APPLICATION NUMBER: 07/23/89
FILING DATE: 09/23/88

APPLICATION NUMBER: 07/248,771
FILING DATE: 06/16/88

APPLICATION NUMBER: 07/207,759
FILING DATE: 06/16/88

APPLICATION NUMBER: 07/204,171
FILING DATE: 06/08/88

APPLICATION NUMBER: 07/173,311
FILING DATE: 03/25/88

APPLICATION NUMBER: 07/100,571
FILING DATE: 09/24/87

ATTORNEY/AGRIT INCRMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADDRESSEE: Fish & Richardson STREET: 225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE/DOCKET NUMBER: 00
TELECOMMUNICATION:
               95.0%;
85.7%;
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(617) 542-8906
                                                                              Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          12/09/88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE:
CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILLING DATE: 03/02,
APPLICATION NUMBER:
FILING DATE: 12/09,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER:
            Query Match
Best Local Similarity
                                                                                                                                                                    11 ||||
2 QWAVGHL 8
                                                                                                                               2 QWXVGHL 8
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6
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US-08-337-127-9
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                                                                           Matches
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Score 38; DB 1; Length 9;
Pred. No. 1.5e+05;
0; Mismatches 1; Indels
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Patent No. 5244883
GENERAL INFORMATION:
APPLICANT: Cai, Ren 2hi
APPLICANT: Schally, Andrew V.,
TITLE OF INVENTION: Antagonists
NUMBER OF SEQUENCES: 40
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Andrew V. Schally
Schally, Andrew V., WUENTION: No. 5544883apeptide Bombesin WVENTION: Antagonists
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Position 1 is D-Trp
Position 8 is a reduced
isostere of named aminoacid
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REGISTRATION NUMBER: 22,940
REFERENCE/DOCKET NUMBER: SHAL3.0-011
TELECOMMUNICATION INFORMATION:
TELEFAX: 1-908-494-6240
FELERAX: 511642 BEPATEDIN
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                               STATE: Coulsiana
COUNTRY: USA
ZIP: TORODALE FORM:
MEDIUM TYPE: 366K Diskette
COMPUTER READABLE FORM:
MEDIUM TYPE: 366K Diskette
COMPUTER: 1BM PC
OPERATION SYSTEM: DOS 5.0
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
CLASSIFICATION DATA:
APPLICATION NUMBER: NO. 5244883e
FILING DATE: N/A
APPLICATION NUMBER:
FILING DATE:
FILING DATE:
ATTORNEY AGENT INFORMATION:
AMAME: DATE:
ANAME: DATE:
ANAME: DATE:
ANAME: DATE:
ANAME: DATE:
ANAME: DATE: OF A COUNTY OF A
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STREET: 5025 Kawanne Avenue
CITY: Metairie
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85.7%;
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Best Local Similarity 85...
5. Conservative
                                     TITLE OF INVENTION: AN TITLE OF INVENTION: AN NUMBER OF SEQUENCES: 4 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTHER INFORMATION:
CTHER INFORMATION:
CTHER INFORMATION:
US-07-619-747B-2
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US-07-619-747B-4
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                                                                                                                                                                                                                                                                                                       Sequence 1, Application US/07619747B
Petent No. 5244883
GENERAL INFORMATION:
GENERAL INFORMATION:
FULLOANT: Cai, Ren Zhi
TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES: 40
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Andrew V. Schally
STREET: 5025 Kawanne Avenue
CITY: Metairie
STATE: Louisiana
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OTHER INFORMATION: Position 8 is a reduced OTHER INFORMATION: isostere of named aminoacid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: 360K Diskette
COMPUTER: 1BM PC
OPERATING SYSTEM: DOS 5.0
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
CLASSIFICATION: 514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION DATA:
APPLICATION NUMBER: No. 5244883e
FILING DATE: N/A
APPLICATION NUMBER:
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Behr. Omri M.
RESTERRINGE/DOCKET NUMBER: SHAL3.0-0;
TELECOMBUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-07-619-747B-2
Sequence 2, Application US/07619747B
PATENT No. 2544883
GENERAL INFORMATION:
APPLICANT: Cai, Ren Zhi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEPHONE: (908)494-5240
TELEFAX: 1-908-494-0428
TELEX: 511642 BEPATEDIN
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 9
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Best Local Similarity 85.7
Matches 6; Conservative
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TOPOLOGY: Unknown
MOLECULE TYPE: peptide
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2 QWAVGHL 8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 9, Application US/07619747B
Patent No. 5244883
GENERAL INFORMATION:
APPLICANT: Cai, Nen Zhi
APPLICANT: Schally, Andrew V.,
TITLE OF INVENTION: Andrew V.,
TITLE OF INVENTION: Andrew V.,
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Andrew V. Schally
                                                                                                                                                                                                                                                                                                                                                                                                     Position 1 is D-Tpi
Position 8 is a reduced
isostere of named aminoacid
                                                                                                                  REFERENCE/DOCKET NUMBER: SHAL3.0-011
TELECOMMUNICATION INFORMATION:
TELEPHONE: (908 494-5240
TELERX: 1-908-494-0428
TELEX: 51642 BEPATEDIN
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER: IBM PC
OPERATING SYSTEM: DOS 5.0
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
CLASSIFICATION 514
PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: No. 5244883e
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STREET: Dr. Andrew V. Schally STREET: 5025 Kawanne Avenue CITY: Metairie STATE: Louisiana COUNTRY: USA ZIP: 70002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SHAL3.0-011
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APPLICATION NUMBER:
FILING DATE:
ATTORNEY ABEN:
NAME: Behr, Omri M.
REGISTRATION NUMBER: 22,940
                                                             ATTORNEY/AGENT INFORMATION:
NAME: Behr, Omri M.
REGISTRATION NUMBER: 22,940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE/DOCKET NUMBER: SH. TELECOMMUNICATION INFORMATION: TELEPHONE: (908) 494-5240 TELEFAX: 1-908-494-0428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    360K Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 95.0
Best Local Similarity 85.7
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                       Unknown
                                                                                                                                                                                                                                                                                                                         TOPOLOGY: Unknown
MOLECULE TYPE: peptide
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                                                                                                                                                                                                                                                                                                                                                                                OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
        FILING DATE: N/A APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                                                                                                                   TYPE: AMINO STRANDEDNESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Cai, Ren Zhi
APPLICANT: Cai, Ren Zhi
APPLICANT: Schally, Andrew V.,
TITLE OF INVENTION: No. 5244883apeptide Bombesin
TITLE OF INVENTION: Antagonists
WUMBER OF SEQUENCES: 40
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Andrew V. Schally
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Position 1 is 5F-D-Trp
Position 8 is a reduced
isostere of named aminoacid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 38; DB 1; I
Pred. No. 1.5e+05;
0; Mismatches 1;
                                                         SOFTWATING SYSTEM: CONTROLL SOFTWARE: WP 5.1

CURRENT APPLICATION DATA: APPLICATION NUMBER: US/07/619,747B

FILING DATE: 19901129

CLASSIFICATION: 514

PRIOR APPLICATION DATA: APPLICATION NUMBER: NO. 5244883e

FILING DATE: N/A

APPLICATION NUMBER: S.2,940

FILING DATE: ATTORNATION: NAME: Behr, Omri M. REGISTRATION NUMBER: 22,940

REFERENCE/DOCKET NUMBER: SHAL3.0-01: TELECHHONE: (908)494-5240

TELECHHONE: 1-908-494-0428

TELEFAX: 1-908-494-0428

TELEFAX: 1-908-494-0428

TELEFAX: 1-908-494-0428

TELEFAX: 511642 BEPARIEDIN

SEQUENCE CHARACTERISTICS: TRACTH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
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APPLICATION NUMBER: NO. 5244883e
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     E: Dr. Andrew V. Schally
5025 Kawanne Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          equence 5, Application US/07619747B tent No. 5244883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CITY: Metairie
STATE: Louisiana
COUNTRK: USA
ZIP: 70002
COMPUTER READABLE FORM:
MEDIUM TYPE: 360K Diskette
COMPUTER: IBM PC
OMPUTER: IBM PC
OPERATING SYSTEM: DOS 5.0
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
                    MEDIUM TYPE: 360K Diskette
COMPUTER: IBM PC
OPERATING SYSTEM: DOS 5.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          95.0%;
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Best Local Similarity 85.7*
ممار 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: AMINO
STRANDEDNESS: Unknown
TOPOLOGY: Unknown
MOLECULE TYPE: peptide
COMPUTER READABLE FORM: MEDIUM TYPE: 360K Di
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE: 199011
CLASSIFICATION: 514
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CTHER INFORMATION:
CTHER INFORMATION:
US-07-619-747B-4
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US-07-619-747B-5
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Gaps

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Score 38; DB 1; Length 9; Pred. No. 1.5e+05; 0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                        Sequence 12, Application US/07619747B
Patent No. 5244883
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Cai, Ren Zhi
APPLICANT: Schally, Andrew V.,
TITLE OF INVENTION: No. 5544883apeptide Bombesin
TITLE OF INVENTION: Antagonists
NUMBER OF SEQUENCES: 40
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OTHER INFORMATION: Position 1 is D-Tpi
OTHER INFORMATION: Position 8 is a reduced
OTHER INFORMATION: isostere of named aminoacid
      ; OTHER INFORMATION: isostere of named aminoacid US-07-619-747B-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 38; DB 1; I
Pred. No. 1.5e+05;
0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURENT APPLICATION DATA:
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
CLASSIFICATION: 514
PRIOR APPLICATION NUMBER: No. 5244883e
FILING DATE: NA
APPLICATION NUMBER: FILING DATE: FILING DATE: ATTORNEY/AGENT INFORMATION:
NAME: Behr, Omri M.
REGISTRATION NUMBER: 22,940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE/DOCKET NUMBER: SHAL3.0-011
TELECOMMUNICATION INFORMATION:
TELEPHONE: (908)494-5240
TELEFAX: 1-908-494-0428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Dr. Andrew V. Schally
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STREET: 5025 Kawanne Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDIUM TYPE: 360K Diskette COMPUTER: 1BM PC OPERATING SYSTEM: DOS 5.0
                                                                                Query Match 95.0%;
Best Local Similarity 85.7%;
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEFAX: 1-908-494-0428
TELEX: 511642 BEPATEDIN
INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ouery Match
Best Local Similarity 85.7.
در و Si Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM: MEDIUM TYPE: 360K DI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTHER INFORMATION:
COTHER INFORMATION:
US-07-619-747B-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CITY: Metairie
STATE: Louisiana
COUNTRY: USA
ZIP: 70002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AMINO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 QWXVGHL 8
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2 QWAVGHL 8
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US-07-619-747B-12
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                                                                                                                                                                                OTHER INFORMATION: Position 1 is NH2CO-Trp
OTHER INFORMATION: Position 8 is a reduced
OTHER INFORMATION: isostere of named aminoacid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Cai, Ren Zhi
AppLICANT: Schally, Andrew V.,
TITLE OF INVENTION: No. 5244883apeptide Bombesin
TITLE OF INVENTION: Antagonists
NUMBER OF SEQUENCES: 40
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Andrew V. Schally
STREET: 5025 Kawanne Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OTHER INFORMATION: Position 1 is D-Trp
OTHER INFORMATION: Position 8 is a reduced
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: 360K Diskette
COMPUTER: IBM PC
OPERATING SYSTEM: DOS 5.0
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
CLASSIFICATION: 514
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APPLICATION NUMBER: No. 5244883e
FILING DATE: N/A
APPLICATION NUMBER:
FILING DATE:
ATORNEY/AGENT INFORMATION:
NAME: Behr, Omri M.
REFERENCE/DOCKET NUMBER: 22,940
REFERENCE/DOCKET NUMBER: SHAL3.0-01
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 10
US-07-619-747B-10
; Sequence 10, Application US/07619747B
; Patent No. 5244883
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEPHONE: (908)494-5240
TELEFAX: 1-908-494-6428
TELEX: 511642 BEPATEDIN
INFORMATION FOR SEQ ID NO: 10
SEQUENCE CHARACTERISTICS:
TELEX: 511642 BEPATEDIN INFORMATION FOR SEQ ID NO: 9 SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                        Query Match 95.0
Best Local Similarity 85.7
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRANDEDNESS: Unknown
                                                                                TYPE: AMINO STRANDEDNESS: Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY: Unknown
MOLECULE TYPE: peptide
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MOLECULE TYPE: peptide
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STATE: Louisian
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TYPE: AMINO
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Gaps

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Length 9;

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REFERENCE/DOCKET NUMBER: SHAL3.0-011
TELECOMNUNICATION INFORMATION:
TELEPHONE: (908.494-5240
TELEFAX: 1-908-494-0428
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: No. 5244883e
FILING DATE:
APPLICATION NUMBER:
FILING DATE:
ATORNEY/AGENT INFORMATION:
NAME: Behr, Omri M.
REGISTRATION NUMBER: 22,940
                                                                                                                                                                                                                                                  SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
                                    CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Andrew V. Schally
STREET: 5025 Kawanne Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Dr. Andrew V. Schally
TITLE OF INVENTION: Antagonists NUMBER OF SEQUENCES: 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET: 5025 Kawanne Avenue
CITY: Metalile
STATE: Louisiana
COUNTRY: USA
                                                                                                                                                                                           MEDIUM TYPE: 360K Diskette
COMPUTER: IBM PC
OPERATING SYSTEM: DOS 5.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEFAX: 1-908-494-0428
TELEX: 511642 BEPATEDIN
INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 95.0
Best Local Similarity 85.7
Matches 6; Conservative
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                                                                                                                                                    ZIP: 70002
COMPUTER READABLE FORM:
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; OTHER INFORMATION:
; OTHER INFORMATION:
US-07-619-747B-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Unknown
                                                                                                                    Louisiana
                                                                                             CITY: Metairie
STATE: Louisiar
                                                                                                                                      USA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-07-619-747B-17
                                                                                                                                      COUNTRY:
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                                                                     Sequence 14, Application US/07619747B
Patent No. 5244883
GENERAL INFORMATION:
APPLICANT: Cal, Ren Zhi
APPLICANT: Schally, Andrew V.,
TITLE OF INVENTION:
NO. 5244883apeptide Bombesin
TITLE OF INVENTION: Antagonists
NUMBER OF SOURNESS: 40
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Andrew V. Schally
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-07-619-747B-15
Sequence 15, Application US/07619747B
Patent No. 5244883
GENERAL INFORMATION:
APPLICANT: Call Ren Zhi
APPLICANT: Schally, Andrew V.,
TITLE OF INVENTION: No. 5244883apeptide Bombesin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Position 1 is Hca
Position 8 is a reduced
isostere of named aminoacid
Position 9 is Tpi
                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER: IBM PC
OPERATING SYSTEM: DOS 5.0
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION UNBER: US/07/619,747B
FILING DATE: 19901129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SHAL3.0-011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE: 19901129
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: No. 5244883e
FILING DATE: N'A
FILING DATE:
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Behr, Omri M.
REGISTRATION NUMBER: 22,940
                                                                                                                                                                                                                                                ADDRESSEE: Dr. Andrew V. Schally
STREET: 5025 Kawanne Avenue
CITY: Metairie
STATE: Louisiana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE/DOCKET NUMBER: SHAL.
TELECOMUNICATION INFORMATION:
TELEPHONE: (908)494-5240
TELEFAX: 1-908-494-0428
TELEFAX: 511642 BEPATEDIN
INFORMATION FOR SEQ ID NO: 14:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                              COMPUTER REALABLE FORM:
MEDIUM TYPE: 360K Diskette
COMPUTER: IBM PC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRANDEDNESS: Unknown TOPOLOGY: Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY: Unknown
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTHER INFORMATION: FOTHER INFORMATION: COTHER INFORMATION: OTHER INFORMATION: US-07-619-747B-14
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Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                             USA
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                              RESULT 12
US-07-619-747B-14
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95.0%; Score 38; DB 1; Length 9; 85.7%; Pred. No. 1.5e+05; ive 0; Mismatches 1; Indels
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Patent No. 5344883
GENERAL INFORMATION:
APPLICANT: Cai, Ren Zhi
APPLICANT: Schally, Andrew V.,
TITLE OF INVENTION: No. 5344883apeptide Bombesin
TITLE OF INVENTION: Antagonists
NUMBER OF SEQUENCES: 40
CORRESPONDENCE ADDRESS:
OTHER INFORMATION: Position 1 is D-pglu
OTHER INFORMATION: Position 8 is a reduced
OTHER INFORMATION: 1sostere of named aminoacid
OTHER INFORMATION: Position 9 is Tpi
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Search completed: October 25, 2001, 11:23:56 Job time: 269 sec
             APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2 QWAVGHL 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 QWXVGHL 8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 18, Application US/07619747B
Stent No. 5244883
Stent No. 5244883
Stent No. 5244883
SENERI INFORMATION:
SCHALICANT: Cai, Ren Zhi
APPLICANT: Antagonists
NUMBER OF SEQUENCES: 40
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Andrew V. Schally
STREET: 5025 Kawanne Avenue
CTTY: Metairie
STATE: Louisiana
COUNTRY: USA
ZIP: 70002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Position 1 is D-Phe
Position 8 is a reduced
isostere of named aminoacid
MEDIUM TYPE: 360K Diskette
COMPUTER: IBM PC
OPERATING SYSTEM: DOS 5.0
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: NO. 5244883e
FILING DATE: NA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: 360K DISKETTE
COMPUTER: IBM PC
OPERATING SYSTEM: DOS 5.0
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
                                                                                                                                                                                                                                                                                                                                                           SHAL3.0-011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE: 19901129
CLASSIFTCATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: No. 5244883e
FILING DATE: NA
                                                                                                                                                                                                                                                                                                                                                  REFERENCE DOCKET NUMBER: SHAL TELECOMMUNICATION INCORMATION: TELEPHONE: (908)494-5240 TELEFAX: 1-908-494-0428 TELEX: 511642 BEPATEDIN INFORMATION FOR SEQ ID NO: 17: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                            FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Behr, Omri M.
REGISTRATION NUMBER: 22,940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRANDEDNESS: Unknown
TOPOLOGY: Unknown
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 95.0
Best Local Similarity 85.7
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTHER INFORMATION:
CTHER INFORMATION:
CTHER INFORMATION:
US-07-619-747B-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AMINO
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2 QWAVGHL 8
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95.0%; Score 38; DB 1; Length 9; 85.7%; Pred. No. 1.5e+05; live 0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                     Position 1 is D-Trp
Position 8 is a reduced
isostere of named aminoacid
Position 9 is Tpi
ATTORNEY/AGENT INFORMATION:
NAME: Behr, Omti M.
REGISTRATION NUMBER: 22,940
REFERENCE/POCKET NUMBER: SHAL3.0-011
TELECOMMUNICATION INFORMATION:
TELEPHONE: (908)494-5240
TELEFAS: 1-908-494-0428
TELEFAS: 511642 BEPATEDIN
INFORMATION FOR SEQ ID NO: 18:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity 85.7
Matches 6; Conservative
                                                                                                                                                                                                                                                              TYPE: AMINO
STRANDEDNESS: Unknown
                                                                                                                                                                                                                                                                                                                         MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                       OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
US-07-619-747B-18
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4.5
Compugen Ltd.
GenCore version
Copyright (c) 1993 - 2000
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OM protein - protein search, using sw model

October 25, 2001, 11:22:46 ; Search time 129.78 Seconds (without alignments) 3.737 Million cell updates/sec Run on:

US-09-630-333-9 40 Title: Perfect score:

1 XQWXVGHL 8 Sequence: BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

412676 seqs, 60623988 residues Searched:

412676 al number of hits satisfying chosen parameters:

length: 0 length: 2000000000 DB seq DB seq Minimum Maximum

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database

1: /SIDS8/gcgdata/geneseq/geneseqp/AA1980.DAT:*
2: /SIDS8/gcgdata/geneseq/geneseqp/AA1981.DAT:*
3: /SIDS8/gcgdata/geneseq/geneseqp/AA1982.DAT:*
3: /SIDS8/gcgdata/geneseq/geneseqp/AA1983.DAT:*
5: /SIDS8/gcgdata/geneseq/geneseqp/AA1985.DAT:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

	Description	Bombesin/qastrin-r	Non-cyclic analogu	Linear litorin ana	Linear litorin ana	Peptide analogue #	Bombesin antagonis	Bombesin antagonis	Bombesin receptor	Bombesin antagonis	Bombesin peptide a	Amino acid sequenc
	ID	AAB48341	AAR04531	AAR11224	AAR11240	AAR14877	AAR28456	AAR28459	AAW64910	AAW50941	AAW92740	AAB08302
	DB	22	11	12	12	12	13	13	16	19	20	21
	Match Length DB	7	8	æ	æ	œ	80	ω	80	80	æ	&
a Ouerv	Match	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0
	Score	38	38	38	38	38	38	38	38	38	38	38
Result	No.	-	7	m	4	5	9	7	œ	თ	10	11

Bomber analogue. Non-ry in-Hogu Non-ry dialogu Non-cyr iv analogu Non-cyr iv analogu		tita nalogue tita nalogue tita nalogue tita logue tita logue tita neudo;	No (psi8 + 9 pseudo) No (psi8
24444	11 AAR0834 12 AAR1152 12 AAR1152 12 AAR1152 12 AAR1203 12 AAR1486 12 AAR1486 12 AAR1486	12 AAR14 12 AAR14 12 AAR14 12 AAR14 12 AAR14 13 AAR24	
8888895.00.00.00.00.00.00.00.00.00.00.00.00.00			20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
112 113 114 116 116	18 20 22 22 25 25 26	22 23 33 33 33 44 45	3 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3

ALIGNMENTS

Cancer; chemotherapy; heparin; thrombospondin; drug resistance Bombesin/gastrin-releasing peptide receptor-recognising pept toxicity; tumour; cytostatic; metalloprotease. AAB48341 standard; peptide; 7 AA. 99US-0140310. 21-JUN-2000; 2000WO-US16955 (first entry) WO200078359-A2. 21-JUN-1999; 20-APR-2001 28-DEC-2000. Synthetic. AAB48341; AAB48341

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(TUSZ/) TUSZYNSKI G. (WILL/) WILLIAMS T. (ACTO/) ACTOR P.

Actor P; Williams T, Tuszynski G,

WPI; 2001-080760/09.

Treating cancer involves administering chemotherapy agent c_i a peptide or co-administering chemotherapy agent and the $\rho(\epsilon_i)$ a

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                                                                                      The invention relates to a method of treating a patient suffering from cancer that comprises administering a chemotherapy agent conjugated to a peptide, or co-administering the agent and the peptide. The peptides can be selected from heparin binding domains of the thrombospondin protein. The method and compositions comprising the agent and the peptide are useful for treating a patient with drug resistant cancer, and for treating a patient with cancer to prevent drug resistance from occurring. Toxic chemotherapeutic agent can also be used, as peptide conjugation and co-administration can considerably reduce the toxicity of the agent and allow less composition to be administered due to increased efficacy. More effective treatment at lower doses is achieved by targeting the chemotherapy agents to the tumour cells. The present sequence represents bombesin/gastrin-releasing peptide receptor-recognising peptide.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C-terminal = ethylamide or amide.

The peptide has an active site and a binding site for binding to a target cell receptor, and has one of the following modifications:

(a) a deletion of a residue within the active site, and modification of a residue outside of the active site; and

(b) a replacement of 1 or 2 residues within the active site with a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mammalian gastrín releasing peptide; amphibian bombesin; cancer; therapeutic peptides.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 38; DB 22; Length 7; Pred. No. 3.4e+05; 0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            89US-0397169, US-257998; WO-U0416
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Disclosure; Page 6; 44pp; English.
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85.7%;
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Matches 6; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New linear peptide analogues of bombesin - modified to eliminate biological activity while retaining receptor affinity, for treating cancer, diabetes, etc.
synthetic amino acid.
On binding to its receptor, the analogue acts as a competition inhibitor of the naturally occurring peptide but due to the modifications, fails to exhibit the normal in vivo biological. The peptides are useful for the treatment of benign or malignant proliferation of tissues, eg cancers of the gastrointestinal tract, pancreatic cancer, colon cancer, lung cancer or breast cancer; for the treatment of atherosclerosis, and disorders or gastrointestinal tissues.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The peptide is useful for treating benign or malignant tissurproliferation, artherosclerosis, gastrointestinal disorders and diabetes. They act as competitive inhibitors of natural peptidical since they bind to the cell receptors but have no biological
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bombesin; litorin analogue; linear; receptor affinity; cance;
                                                                                                                                            This peptide is a claimed example of a highly generic formul
See also AAR04525-R04533.
                                                                                                                                                                                                                                                     Length 8;
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Pred. No. 3.4e+05;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAR11224;
                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       diabetes
                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                     AAR11224
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Sequence activity

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Gali

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This peptide is one of 27 specific examples of a highly generatormula. The peptides are all analogues of either litorin; 10 amino acid C-terminal region of mammalian GRP, neuromedin B vor neuromedin C; or the 10 amino acid C-terminal region of amphibian bombesin. They act as at least partial agonists of the natural synthesis and can be cyclised.

See AAR14860-R14880 and AAR15035-R15040.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Peptide agonists of litorin, gastrin releasing peptide - neuromedin B or C or bombesin, for treating cancer, preventing smooth muscle proliferation and suppressing appetite and alcohol
                                                                                                                                                                                                                                                                                                                    tissue proliferation; gastrin related peptide; peptide horm...
                                                                                                                                                                                                                                                                                    Peptide analogue #18 of litorin, GRP, neuromedin or bombesin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 38; DB 12; Length 8;
Pred. No. 3.4e+05;
0; Mismatches 1; Indels
     Score 38; DB 12; Length 8;
Pred. No. 3.4e+05;
Mismatches 1; Indels
                                       0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                   /label= OTHER
/note= "Leu-propylamide"
                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 20; Page 19; 25pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (TULA ) TULANE E FUND ADMINISTRA. (BIOM-) BIOMEASURE INC.
                                                                                                                                                                                      AAR14877 standard; Protein; 8 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                      /label= D-Phe
     95.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               95.0%;
85.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Coy DH, Kim SH, Moreau JP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  900S-0520226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   91WO-0003265
                                                                                                                                                                                                                                                  14-FEB-1992 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 6; Conservative
                                       6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 1991-353721/48.
Query Match
Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8 AA;
                                                                                        2 QWXVGHL 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 11 1111
2 qwayghl 8
                                                                     2 QWXVGHL 8
                                                                                                                                                                                                                                                                                                                                                                                                   Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                     Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                09-MAY-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  09-MAY-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO9117181-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     14-NOV-1991.
                                                                                                                                                                                                                                                                                                                                                     Synthetic.
                                                                                                                                                                                                                     AAR14877;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
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Matches
                                                                                                                                                      RESULT
AAR14877
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                                                                                                    Op
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0
                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This peptide is a specifically claimed example of a generic formula. The C-terminal amino acid (Met) of the naturally occurring beptide has been converted to an amide and Phe 8 has been replaced by beta-Lou.

The peptide is useful for treating benign or malignant tissue prolliferation, artherosclerosis, gastrointessinal disorders and diabetes. They act as competitive inhibitors of natural peptides, since they bind to the cell receptors but have no biological
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New linear peptide analogues of bombesin - modified to eliminate biological activity while retaining receptor affinity, for treating cancer, diabetes, etc.
                                                                                                                    ;
                                                                                                                                                                                                                                                                                                                                                                                                   Bombesin; litorin analogue; linear; receptor affinity; cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The analogue may also be of a naturally occurring peptide terminating at the C-terminus with a Met residue, such as the 10 amino acid C-terminal region of mammalian GRP or amphibian
                                                                                 Score 38; DB 12; Length 8;
Pred. No. 3.4e+05;
0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /label= D-p-chloro-phenylalanine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 17; Page 53; 58pp; English.
                                                                                                                                                                                                                                                                 AAR11240 standard; Protein; 8 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (TULA ) ADMIN TULANE EDUCATIONAL.
(BIOM-) BIOMEASURE INC.
                                                                                                                                                                                                                                                                                                                                                                  Linear litorin analogue (II).
                                                                                   95.0%;
85.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                90WO-US04646
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Kim SH;
                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             See also AAR11239-242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Coy DH, Moreau JP,
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                                                                            Query Match
Best Local Similarity
Matches 6; Conserv
                                   8 AA;
                                                                                                                                                                   2 QWXVGHL 8
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30-MAR-1990;
                                                                                                                                                                                                                                                                                                                                  17-MAY-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO9102746-A
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                                                                                                                                                                                                                                                                                                                                                                                                                                                   Synthetic
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diabetes

AAR11240

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AAR28459 standard; Protein; 8 AA.

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AAR28459
   RESULT
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The peptide is a bombesin/GRP (gastrin releasing peptide) antagonist and is useful for treatment of states of hypergastrinemia, e.g. pernicious anaemia, chronic atrophic gastritis, Zollinger-Ellison syndrome and vitiligo, associated with diffuse hyperplasia of gastric enterochromaffin-like colls, and with an increased risk of developing multifocal gastric carcinoid tumours. The peptide can also be used to treat lung, colon and gastric cancers. Dosage is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       hypergastrinaemic states, such as pernicious anaemia and
Zollinger-Ellison syndrome and also used against lung and gastric
                                                                                                                                                                                                                                                                        /label= psi
/note= "residues 7-8 are linked via a pseudo
                                                                                                                                                                                                                                                                                                                                                /note= "residues 7-8 are linked via a pseudo
                                                                                                                                                                                                                                           /note= "Hca-Gln; Hca= hydrocinnamic acid"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New nona:peptide bombesin antagonists - used for treating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 38; DB 13; Length 8; Pred. No. 3.4e+05; 0; Mismatches 1; Indels
                                                                                                                                                   Bombesin; GRP; gastrin releasing peptide.
                                                                                                                                                                                                                                                                                                      peptide bond"
                                                                                                                                                                                                                                                                                                                                                               peptide bond"
                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Disclosure; Page 8; 50pp; English.
                            AAR28456 standard; Protein; 8 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (TULA ) TULANE EDUCATIONAL FUND.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          95.0%;
85.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         91WO-US08534,
                                                                                                                                                                                                                                                                                                                                     psi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     90US-0619747
                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Local Similarity 85.7
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                  /label=
                                                                                                                      Bombesin antagonist
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Schally AV;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 1992-217019/26.
                                                                                                                                                                                                                          Modified-site
                                                                                                                                                                                                                                                         Modified-site
                                                                                                                                                                                                                                                                                                                    Modified-site
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                                                                                        09-DEC-1992
                                                                                                                                                                                                                                                                                                                                                                                             WO9209626-A.
                                                                                                                                                                               Synthetic
                                                          AAR28456;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cancer,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Cai RZ,
9
              AAR28456
                               8.88888888888888888
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The C-terminal is amidated. The peptide is an example of a hority generic formula for bombesin antagonists which are [psi8-9 pseudo] nonapeptides contg. D- or L-tryptophan or tryptophan analog 2,3,4,9-terrahydro-1H-pyrido[3,4-b]-indol-3-carboxylic acid (1p1) at the N- and/or C-terminal.

The peptide is a bombesin/GRP (gastrin releasing peptide) antagonist and is useful for treatment of states of hypergastrinemia, e.q. pernicious anaemia, chronic atrophic gastritis, Zollinger-Ell: or syndrome and vitiligo, associated with diffuse hyperplasia of gastric enterochromaffin-like cells, and with an increased risk of developing multifocal gastric carcinoid tumours. The peptide can also be used to treat lung, colon and gastric cancers. Dosaque 1. 1000 mircrog/kg parenterally.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    iaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New nona:peptide bombesin antagonists - used for treating hypergastrinaemic states, such as pernicious anaemia and Zollinger-Ellison syndrome and also used against lung and gast 10
                                                                                                                                                                                                                                                                                ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                       /label= psi
/note= "residues 7-8 are linked via a pseudo
peptide bond"
                                                                                                                                                                                                                                                              /label= psi
/note= "Trp(For), For= formyl; residues 7-8
linked via a pseudo peptide bond"
                                                                                                                                                                 /note= "Mpp-Gln; Mpp= 3-(4-methoxyphenyl)
propionic acid"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    95.0%; Score 38; DB 13; Length 8; 85.7%; Pred. No. 3.4e+05; ive 0; Mismatches 1; Indels
                                                                                GRP; gastrin releasing peptide.
                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Disclosure; Page 8; 50pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                 (TULA ) TULANE EDUCATIONAL FUND.
                                                                                                                                                                                                                                                                                                                                                                             91WO-US08534.
                                                                                                                                                                                                                                                                                                                                                                                                        90US-0619747
                           (first entry)
                                                     Bombesin antagonist (27).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Schally AV;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 1992-217019/26.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2 QWXVGHL 8
                                                                                                                                          Key
Modified-site
                                                                                                                                                                                           Modified-site
                                                                                                                                                                                                                                                 Modified-site
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                                                                                                                                                                                                                                                                                                                                                                           15-NOV-1991;
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                          09-DEC-1992
                                                                                                                                                                                                                                                                                                                    W09209626-A.
                                                                                                                                                                                                                                                                                                                                                 11-JUN-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cancer, etc.
                                                                                 Bombesin;
                                                                                                             Synthetic
AAR28459;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Cai RZ,
δλ
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Gaps

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2 QWXVGHL 8

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AAW64910

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L-phenylalanine or a chlorambucil group"
                                                                                                                                                                                                                                                                                                                                                    New bombesin, gastrin releasing peptide or Neuromedin B or C derivs. - antagonists for treating conditions such as gastrointestinal disorders, psoriasis and cancers
                                                                     Bombesin; antagonist; chlorambucil; peptic ulcer; pancreatitis; eating disorder; diabetes; acromegaly; enterocutaneous fistula; psoriasis; growth retardation; gastrointestinal motility disorder;
                                                                                                                                                     'note= "The amino terminal is acylated with acetyl
                                                                                                                                                                                          an
                                                                                                                                                                                         /note= "The carboxy terminal is in the form of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            persist for extended periods of time upon administration
                                                                                                                                                                                                                                                                                                                  Chandrasekhar B, Knight M, Takahashi K;
                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                 (PEPT-) PEPTIDE TECHNOLOGIES CORP.
AAW64910 standard; peptide; 8 AA.
                                                                                                                                                                                                                                                                                                                                                                                         Claim 6; Page 34; 45pp; English.
                                                                                                                                                                                                ethyl ester"
                                                    Bombesin receptor antagonist
                                                                                                                                                                                                                                                                       93US-0168390.
93US-0078062.
                                                                                                                                                                                                                                                       94WO-US06757
                                   (first entry)
                                                                                                                                                                                                                                                                                                                                    WPI; 1995-052004/07.
                                                                                                                                   Key
Modified-site
                                                                                                                                                                                Modified-site
                                                                                                                                                                                                                                                      15-JUN-1994;
                                                                                                                                                                                                                                                                       17-DEC-1993;
18-JUN-1993;
                                                                                                                                                                                                                   WO9500542-A1
                                  06-JUL-1999
                                                                                                                                                                                                                                    05-JAN-1995.
                                                                                                antitumour
                                                                                                                 Synthetic.
                 AAW64910;
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8 AA;

Sequence

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The invention relates to a new composition which comprises: (i) the somatostatin analogue SOM2 AGGKNFFGWKTPTSGC (3-14 disulphide tuidge) and (ii) at least 4 of the peptides: antagonist of vasoactive intestinal peptide (VIP1); VIP receptor binding inhibitor (VIL2); VII receptor antagonist (VIP3); somatostatin analogue (SOM1); bomtuesin antagonist (BOM1) and substance P antagonist (SPI). Also colained are more general compositions containing peptide analogues of somatostatin. VIP, bombesin and substance P. The compositions are used in human or veterinary medicine: (a) to xill (or inhibit multiplication of) tumour or cancer cells, particularly for treatment of leukaemia, lymphoma, adenocarcinoma of stomach, pancreas or prostate, or cancer (1 ung, breast, kidney or particularly rectum and colon, and (b) to (ent, inhibit or modulate over-expression of, eg. VIP. A wide rand, of cancells express receptors for VIP, somatostatin, bombesin and/or substa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Vasoactive intestinal peptide; VIP; antagonist; somatostaten, tabesin; Substance P; cancer; inhibition.
                                                             Tps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               daps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Composition containing analogues of vasoactive intestinal peptide, somatostatin - bombesin and substance P, for treatment of tune irs and for inhibiting over-expression of these peptide(s)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  =
Score 38; DB 16; Length 8;
Pred. No. 3.4e+05;
Mismatches 1; Indels
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Pred. No. 3.4e+05;
0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note= "D-form residue"
8
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                                                                                                                                                                                                                                                                                          AAW50941 standard; peptide; 8 AA.
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0
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95.0%;
ilarity 85.7%;
Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bombesin antagonist (BOM1).
                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Jaggi M, Mukherjee R;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1998-208959/19.
  Query Match
Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity
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                                                                                                          2 QWXVGHL 8
                                                                                                                                                          8
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                                                                                                                                                            qwavghl
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16-AUG-1996;
                                                                                                                                                                                                                                                                                                                                                                                                     31-JUL-1998
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Synthetic
                                                                                                                                                                                                                                                                                                                                                  AAW50941;
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Prasad S,
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                                                                                                                                                                                                                                                                                                                                                                                                               AAB08302 standard; peptide; 8 AA.
                                                                                                                                                                                                                                      similarity 85.7%;
6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         11-FEB-2000; 2000WO-US03559.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
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(CORD/) CORD J I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mukherjee R, Jaggi M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .eukaemia; lymphoma.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2000-549083/50
                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                        8 AA;
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                                                                                                                                                                                                                                                                                                    2 QWXVGHL 8
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2 qwavghl 8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                          04-DEC-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Synthetic.
                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                             AAB08302;
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                                                                                                                                                                                                                                                                                                                                                                                RESULT 1
οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This invention describes novel peptides which are analogues of litorin or the 10 amino acid carboxy-terminal region of mammalian gastrin releasing peptide or the 10 amino acid carboxy-terminal region of amphibian bombesin of formula (R1)(R2)Al-A2-Trp-A4-A5-A6-A7-W where Al-D-isomer of p-X-Phe, Trp or beta-Nal; X = F, Cl, Br, NO2, OH, H or Me; A2 = Gly, Ala, Val, Gln, Asn, Leu, Ile, Met, p-X-Phe, Trp, Cys, Val, Gln, Asn, Leu, Ile, Met, p-X-Phe, Trp, Cys or beta-Nal; A5 = Gln, Asn, Gly, Ala, Leu, Ile, Nle, alpha-aminobutyric acid, Met, Par, Phe, Trp, Cys or beta-Nal; A5 = Gln, Asn, Gly, Ala, Leu, Ile, Nle, alpha-aminobutyric acid, Met, Val, Gh, Px-Phe, Trp, Thr or beta-Nal; A6 = Sar, Gly or D-isomer of Ala, N-methyl-Ala, Val, Gln, Asn, Leu, Ile, Met, p-X-Phe, Trp, Cys or beta-Nal; A7 = His or 1-methyl or 3-methyl-His; W = -N(R3)-CH(Z1)-R4. CH(Z2)-C(=0)V; R4 = CHZNH; Z1, Z2 = Gly, Ala, Val, Leu, Ile, Ser, Asp,
                                                                                                                                                                                                                                              Bombesin; gastrin releasing peptide; GRP; GRF; litorin; proliferation; growth hormone releasing factor; treatment; benign; malignant; tissue; small-cell lung carcinoma; atherosclerosis; gastrointestinal disorder; diabetes; diabetes related retinopathy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New peptides - useful for treating benign or malignant tissue proliferation, gastrointestinal disorders and diabetes
                                                                                                                                                                                                                                                                                                                                                                                        /note= "Residue is pyroglutamate"
                                                                                                                                                                                                                                                                                                                                                                                                                         /note= "methylester C-terminus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Disclosure; Column 29-30; 22pp; English.
                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                   AAW92740 standard; peptide; 8 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (BIOM-) BIOMEASURE INC. (TULA) TULANE EDUCATIONAL FUND.
                                                                                                                                                                                                                  Bombesin peptide analogue #6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             88US-0257998.
88US-0282328.
89US-0317941.
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88US-0207759.
88US-0248771.
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88US-0173311
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90US-0502438
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                                                                                                                                                                                   (first entry)
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qwavghl 8
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         OWXVGHL
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13-SEP-1988;
14-OCT-1988;
09-DEC-1988;
07-JUL-1989;
07-JUL-1989;
30-MAR-1999;
10-NOV-1994;
                                                                                                                                                                                 30-APR-1999
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24-SEP-1987;
25-MAR-1988;
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Synthetic.

Key

AAW92740;

AAW92740

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econitis
Asn, Glu, Gln, p-X-Phe, Trp, Cys, Met, Pro, Hypro or cyclohexylAla; V OR5 or NR6R7; R3, R5, R6, R7 = H, lower alkyl, phenyl(lower alkyl); or naphthyl(lower alkyl); R1, R2 = H, 112C alkyl, 7-10C phenylalkyl or COE1; Where R1 and R2 are bonded to the N-terminal amino acid of the peptide; E1 = 1-20C alkyl, 3-20C alkenyl, 3-20C alkynyl, Ph, naphthyl or 7-10C phenylalkyl; provided that when 1 of R1 and R2 is COE1, the other must be H. The peptides can be used for treating benign or malignant proliferation of tissue e.g. small-cell lung carcinemic, atherosclerosis, gastrointestinal disorders, and diabetes or diabetes analogues used in the method of the invention.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         . 4.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Vasoactive intestinal peptide, VIP, analogue, somatostatin, VIP1, VIP2, VIP3, BOM1, bombesin, SP1, substance P, MuJ-7, L, tumour angiogenesis; metastasis, cancer, angiogenesis, aden.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Rajendran P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The present sequence represents an analogue of bombesin, The specification describes therapeutically active compositions at least one analogue of somatostatin (chosen from SOM1 and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length o;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 38; DB 20; Length a;
Pred. No. 3.4e+05;
0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Amino acid sequence of bombesin analogue BOM1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Burman AC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note= "residue is Leu-NHEt"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   'note= "D-form residue"
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at least four analogues chosen from vasoactive intestinal peptide (VIP) I (a VIP antagonist), VIP2 (a VIP receptor binding inhibitor), VIP3 (a VIP receptor antagonist), WIP3 (a VIP receptor antagonist), The combination of these 7 analogues is known as MuJ-7. MuJ-7 is used as an anticancer drug to restrict tumour growth and spread by inhibiting tumour angiogenesis. MuJ-7, in addition, inhibits metastasis through its antianglogenic activity in all cancers. The peptides are useful for the treatment and prevention of angiogenesis, especially as a result of adenocarcinomas of the colon, breast, lung, prostate, kidney, leukemias or lymphomas.
                                                                                                                                                                                                                                                                                                                        AA;
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        555555555555x8
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·; Gaps 0; Length 8; Score 38; DB 21; Length 8; Pred. No. 3.4e+05; 0; Mismatches 1; Indels 95.0%; 85.7%; Conservative Query Match Best Local Similarity '-has 6; Conserv?

QWXVGHL 8

|| || |||| 2 qwavghl 8

RESULT 12

AAB72406 standard; peptide; 8 AA

AAB72406;

(first entry) 03-MAY-2001

Bombesin analogue.

transfer; gastrin releasing peptide receptor; GRPr; BBN. Gene therapy; gene bombesin analogue;

Unidentified.

WO200112234-A1.

22-FEB-2001,

16-AUG-2000; 2000WO-US22456

16-AUG-1999; 99US-0374972 01-JUN-2000; 2000US-0585194

(UABR-) UAB RES FOUND.

Rogers BE; Zinn KR, Buchsbaum DJ, Curiel DT,

WPI; 2001-218310/22.

Monitoring therapeutic gene transfer and expression into a subject, by administering vector encoding the gene and gene for membrane expressed targeting molecule, and a radiolabeled ligand, and imaging gene transfer

Example 10; Page 33; 107pp; English.

The present invention relates to a method for monitoring therapeutic gene transfer and expression into a subject, comprising administering a vector encoding a therapeutic gene and a gene for a membrane expressed targeting molecule (TM), and a radiolabelled ligand (RL) having high affinity for TM, and detecting the binding of RL with TM. The binding is directly proportional to the transfer and expression of the therapeutic gene. Preferably, the TM is gastrin releasing peptide receptor (GRPI). A technique was developed to image GRPI expression using a 99m^TC-labelled bombesin (BBN) analogue (the present sequence).

8 AA; Sequence DB 11; Length 9;

Score 38;

95.0%;

Query Match

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The peptide has an active site and a binding site for binding to a target cell receptor, and has one of the following modifications:

(a) a deletion of a residue within the active site and a modification of a residue within the active site; and confirmation of a residue within the active site; and confirmation of a residue within the active site with a synthetic amino acid.

(b) a replacement of 1 or 2 residues within the active site with a confirmation of the naturally occurring peptide but due to the modifications, fails to exhibit the normal in vivo biological active proliferation of tissues, eg cancers of the gastrointestinal tract, pancreatic cancer, colon cancer, lung cancer or bream.

C ancer; for the treatment of atherosclerosis; and disorders of the gastrointestinal tissues.

C this peptide is a claimed example of a highly generic formula.
                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New non-cyclic analogues of mammalian gastrin releasing peptide and amphibian bombesin, used for cancer treatment eg small cell lung carcinoma, atherosclerosis and gastrointestinal disorders.
                                                                                                                                                                                                                                                                  Mammalian gastrin releasing peptide; amphibian bombesin; cancur; therapeutic peptides.
                                                                                                                                                                                                                                         Non-cyclic analogue of amphibian bombesin and mammalian GRP
Length 8;
                          Indels
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Score 38; DB 22;
Pred. No. 3.4e+05;
                          0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SH;
                                                                                                                                                                                                                                                                                                                                                                                                             /label=beta-homoleucine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Kim
                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (TULA ) TULANE E FUND ADMINISTRA.
                                                                                                                                                    AAR04526 standard; protein; 9 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Taylor JE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8; Page 49; 68pp; English.
                                                                                                                                                                                                                                                                                                                                                                  /label= OTHER
/note= "D-p-Cl"
95.0%;
85.7%;
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                                                                                                                                                                                                             (first entry)
                           6; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 1990-147822/19.
          Best Local Similarity
Matches 6; Conserv
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                                                    2 QWXVGHL 8
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Modified-site
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                                                                                                                                                                                                                                                                                                             Synthetic.
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Query Match
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                                                                                                                                        AAR04526
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us-09-630-333-9.rag

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Mammalian gastrin releasing peptide; amphibian bombesin; cance
                                                                                                                                                          Non-cyclic analogue of amphibian bombesin and mammalian GRP
                                                                                         AAR04529 standard; protein; 9 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                         Coy DH, Moreau J-P,
                                                                                                                                                                                          therapeutic peptides
                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 1990-147822/19
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2 qwavghl
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                                                                                                              AAR04529;
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                                                                              AAR04529
                                                                   RESULT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          modification of a residue outside of the active site; and

(b) a replacement of 1 or 2 residues within the active site with a
synthetic amino acid.

(b) binding to its receptor, the analogue acts as a competitive
inhibitor of the naturally occurring peptide but due to the
modifications, fails to exhibit the normal in vivo biological activity.

The peptides are useful for the treatment of benign or malignant
proliferation of tissues, eg cancers of the gastrointestinal
tract, pancreatic cancer, colon cancer, lung cancer or breast
cancer; for the treatment of atherosciensis; and disorders of the
gastrointestinal tissues.
            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New non-cyclic analogues of mammalian gastrin releasing peptide -
and amphibian bombesin, used for cancer treatment eg small
cell lung carcinoma, atherosclerosis and gastrointestinal disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C-terminal = NH2.
The peptide has an active site and a binding site for binding to target cell receptor, and has one of the following modifications:
(a) a deletion of a residue within the active site and a
                                                                                                                                                                                                  Mammalian gastrin releasing peptide; amphibian bombesin; cancer; therapeutic peptides.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      peptide is a claimed example of a highly generic formula.
                                                                                                                                                                              Non-cyclic analogue of amphibian bombesin and mammalian GRP.
           1; Indels
                                                                                                                                                                                                                                                                                                                                                                                              89US-0397169, US-257998; WO-U0416.
 Pred. No. 3.4e+05;
                                                                                                                                                                                                                                                                                /label= D-beta-naphthylalanine
           0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                          SH;
                                                                                                                                                                                                                                                                                                     /label=leucine psi[CH2NH]
                                                                                                                                                                                                                                                                                                                                                                                                                                          Kim
                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                              AAR04527 standard; protein; 9 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                         Taylor JE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 12; Page 52; 68pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                   (TULA ) TULANE E FUND ADMINISTRA
85.78;
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                                                                                                                                                          (first entry)
 Best Local Similarity 85.7
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                          Moreau J-P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 1990-147822/19
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                                              2 QWXVGHL 8
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                                                                                                                                                                                                                                     Synthetic
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89US-0397169, US-257998; WO-U0416.

89WO-US00416

Kim SH;

Taylor JE,

/label=leucine psi[CH2NH]

/label= D-phenylalanine

/label= D-phenylalanine

Location/Qualifiers

(first entry)

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                         on binding to its receptor, the analogue acts as a competitive inhibitor of the naturally occurring peptide but due to the modifications, fails to exhibit the normal in vivo biological activity. The peptides are useful for the treatment of benign or malignant proliferation of tissues, eg cancers of the gastrointestinal tract, pancreatic cancer, colon cancer, lung cancer or breast cancer; for the treatment of atherosclerosis; and disorders or the agastrointestinal tissues.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aps.
New non-cyclic analogues of mammalian gastrin releasing peptide - and amphibian bombesin, used for cancer treatment eg small cell lung carcinoma, atherosclerosis and gastrointestinal disorders.
                                                                                                                                                                                                                                                                                                      5
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                                                                                                                                                                                                                                                                                                                                                                        modification of a residue outside of the active site; and (b) a replacement of 1 or 2 residues within the active site with
                                                                                                                                                                                                                                                       The peptide has an active site and a binding site for binding target cell receptor, and has one of the following modificati (a) a deletion of a residue within the active site and a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This peptide is a claimed example of a highly generic formula See also {\sf AAR04525\text{-}R04533} .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 9;
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Pred. No. 3.4e+05;
0; Mismatches 1
                                                                                                                                                   Claim 15; Page 52; 68pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 95.0%;
Best Local Similarity 85.7%;
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                          synthetic amino acid.
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Gaps

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Score 38; DB 11; Length 9; Pred. No. 3.4e+05; 0; Mismatches 1; Indels

Query Match 95.0%; Best Local Similarity 85.7%; Matches 6; Conservative (

2 QWXVGHL 8 || || || || || 2 2 qwavghl 8 Qy Dp

Search completed: October 25, 2001, 11:22:46 Job time: 219 sec

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GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                        OM protein - protein search, using sw model
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October 25, 2001, 11:27:45; Search time 135.34 Seconds (without alignments) 7.821 Million cell updates/sec Run on:

US-09-630-333-9 40 1 XQWXVGHL 8 Title: Perfect score: Sequence: BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

425026 seqs, 132305027 residues Searched:

425026 I number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database :

sp_phage:*
 sp_plant:*
 sp_rodent:*
 sp_unclassified:*
 sp_wretebrate:*
 sp_virus:* SPTREMBL_16:*

1: Sp_archea:*
2: Sp_bacteria:*
3: Sp_fungi:*
4: Sp_human:*
5: Sp_invertebrate:*
6: Sp_mammal:* sp_mhc:* sp_organelle:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Description	Q9vzf7 drosophila	Q9ui28 homo sapien	Q9uve4 zyqosacchar	Q9p6y1 neurospora	Q9fi20 arabidopsis	Q90253 bombina ori	Q9v5c9 drosophila	Q9ps30 oncorhynchu	Q918z9 carassius a	Q9wwt3 pseudomonas	Q9hv19 pseudomonas	Q9jn79 streptomyce	Q99986 homo sapien	Q9u0v1 leishmania	Q07711 staphylococ	_		O9rnx9 escherichia	Q9wd80 influenza b
QI	Q9VZF7	Q9UI28	Q9UVE4	Q9P6Y1	Q9F120	090253	Q9V5C9	Q9PS30	628160	Q9WWT3	67AH6Ö	62NC60	986660	Q900V1	007711	Q9K7H4	033831	Q9RNX9	09WD80
DB	2	4	٣	٣	10	13	D.	13	13	7	7	7	4	5	7	7	7	7	14
% Query Match Length DB	266	224	232	256	252	119	276	23	157	211	372	387	396	399	700	721	822	1121	109
% Query Match	92.5	90.0	90.0	90.0	87.5	85.0	85.0	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	80.0
Score	37	36	36	36	35	34	34	33	33	33	33	33	33	33	33	33	33	33	32
Result No.	1	7	m	4	S	9	7	80	σ	10	11	12	13	14	15	16	17	18	19

	Q9wd73 influenca b Q9nd49 caenorhabdi Q99yb8 leishmania Q9n144 trypanosania P72284 tlizobium l P72288 rhizobium l P7288 rhizobium l Q9fq94 rhizobium e P71753 mycobacterii
14 09WD79 114 09WD78 14 09WD77 14 09WD74 14 09WD74 14 09WD21 14 09WB33 14 09WB33 14 09WB33 14 09WB20 14 09WB20 14 09WB20 16 09ZBB0 17 09ZBB0 10 09ZBB0 10 09ZBB0 10 09ZBB0 11 09ZBB0 12 09ZBB0 13 09PWB7	114 Q9WD73 5 Q9WD79 5 Q9WBB 5 Q9W144 2 P72284 2 O06655 2 P72288 2 Q9FDG4
1009 1009 1009 1009 1009 1009 1009 1009	109 236 470 487 539 540 540
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33333355555555555555555555555555555555	337 338 444 5444 5

ALIGNMENTS

RESULT Q9VZF7	
A I	Q9VZE7 PRELIMINARY; PRT; 266 AA. Q9VZE7;
T T	01-MAY-2000 (TrEMBLrel. 13, Created) 01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
占	(TrEMBLrel, 16,
OE	IMPLZ PROTEIN,
Z 0	IMPLZ OR CGISOUG. Drogophila molanogaetor (Druit flu)
8 8	DIOSOPHITA METAZOA: Arthropoda: Tracheata: Hexapoda: Insecta:
ပ္ပ	Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
200	Ephydroidea; Drosophilidae; Drosophila.
Z Z	NCD1_19A1D=/22/;
RP	SEQUENCE FROM N.A.
RC	STRAIN=BERKELEY;
RX	MEDLINE=20196006; PubMed=10731132;
RA	Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.
RA	Amanatides P.G., Scherer S.E., Li P.W., Hoskins R.A., Galle R.F.,
RA	George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S N.,
RA	Sutton G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X.,
RA	Brandon R.C., Rogers YH.C., Blazej R.G., Champe M., Pfeiffer B.D.,
RA	Wan K.H., Doyle C., Baxter E.G., Helt G., Nelson C.R., Miklos il. G.,
¥ £	ADTIL J.F., Agbayani A., An HJ., Andrews-Prannkoch C., Baldain D.,
A A	Ballew K.M., basu A., baxendale J., bayraktaroglu L., beasley E.M., Booson K.V. Bonos D.V. Borman B.D. Bhandari D. Bolshakov
RA RA	Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottier P.
RA	Burtis K.C., Busam D.A., Butler H., Cadieu E., Center A., Change I.,
RA	Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
RA	de Pablos B., Delcher A., Deng Z., Mays A.D., Dew I., Dietz S.M.,
KA	Dodson K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Linn P.
A G	Duroin K.J., Evandelista C.C., Ferraz C., Ferras S., Fleischmann W.
RA RA	FOSTEL C., CADITELIAN N.E., GAILGNIC W.F., GAIDSET N. GAIDSEN N. G
RA	
RA	Hostin D., Houston K.A., Howland T.J., Wei MH., Ibegwam C.,
RA	M., Kalush F., Karpen G.H., Ke Z., Kennison J.A.,
RA	Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai /.,
KA 8	
A d	Morbulon G Milebins N V Mobbulon T. Morbulon D. Morbulon G Milebins N V Mobbulon G Morbulon G Morbu
Ş	METRULOV 6., MILSHAHO N.V., MODOLLY C., MOLLLS U., MOSHLELL N

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140 QWCVGHL 146
                                                            NCBI_TaxID=4956;
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                                                                                                  STRAIN-CBS 732;
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       Nelson D.R., Nelson K.A., Nusokern D.R., Pacleb J.M., Palazzolo M., Pittman G.S., Pan S., Pollard J., Puri V., Reese M.G., Reinston K., Saunders R.D.C., Scheeler F., Shen H., Shue B.C., Siden-Klamos I., Simpson M., Skupski M.P., Smith T., Spier E., Spradling A.C., Stapleton M., Strong R., Sun E., Svirskas R., Tector C., Turner R., Venter E., Wang A.H., Wang X., Wang Z.-Y., Wassarman D.A., Weinstock G.M., Weissenbach J., Ye J., Yeh R.-F., Zaveri J.S., Zhan M., Zhang G., Zhao Q., Zhao G., Zhong X.H., Zhong F.N., Zhong W., Zhou X., Zhu S., Zhu X., Smith H.O., Gibbs R.A., Myers E.W., Rubin G.M., Venter J.C.;
The genome sequence of Drosophila melanogaster.",
                                                                                                                                                                            -!- SIMILARITY: TO IMMUNOGLOBULIN AND MAJOR HISTOCOMPATIBILITY COMPLEX
                                                                                                                                                                                                                                                                                                                               Gaps
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Mount S.M., Moy M., Murphy B., Murphy L., Muzny D.M., Nelson D.L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TISSUE-ADRENAL GLAND;
Handy C., Zhang C., Wu T., Peng Y., Gu Y., Zhang L., Jiang C., Li Hand Z., Wang Y., Chen Z., Fu G.;
"A novel gene expressed in human adrenal gland.";
Submitted (DEC-1988) to the EMBL/GenBank/DDBJ databases.
EMBL; AF110776; AAF14859.1; -.
InterPro; IPR000051; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.
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0
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Pred. No. 5.1;
0; Mismatches 1; Indels
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                                                                                                                                                                                                                                               PFam; PF00047; ig; 4. sEOUENCE 266 AA; 29823 MW; FC97694BDFF80F33 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8BB11B3FA7804CD3 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q9UVE4;
01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
                                                                                                                                                                                                                                                                                                                                                                                                                                             224 AA
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                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
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                                                                                                                                                                                                                                                                                                     92.5%;
85.7%;
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71.48;
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Best Local Similarity 85.7
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                     90 QWVVGHL 96
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Holland R.,
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                                              Zygosaccharomyces rouxii (Candida mogii).
Eukaryota, Fungi, Ascomycota, Saccharomycotina, Saccharomycete, Saccharomycetaceae, Zygosaccharomyces.
                                                                                                                                                                                                                                      Sychrova H., Braun V., Potier S., Souciet J.L.;
"Genomic organization of Pichia sorbitophila and Zygosaccharom, rouxii genomes:comparison with Saccharomyces cerevisiae.";
Submitted (DEC-1998) to the EMBL/GenBank/DDBJ databases.
EMBL; YRB560; CAB62288-1;
InterPro; IPR001601;
Hypothetical protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .;
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Sordariales; Sordariaceae; Neurospora.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 36; DB 3; Length 232;
Pred. No. 7.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A. Schulte U., Aign V., Hoheisel J., Brandt P., Fartmann B., Sychulte U., Aign W., Mewes H.W., Mannhaupt G.; Submitted (APR-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 36; DB 3; Length 256;
Pred. No. 7.8;
0; Mismatches 1; Indels
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Submitted (APR-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; AL153820; CAB88603.1; -.
InterPro; IPR001601; -.
SEQUENCE 256 AA; 27789 WW; 5251FBC58B6BDDD9 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                      l protein.
232 AA; 26369 MW; 43CD832A6ED7F6B4 CRC64;
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01-WAR-2001 (TrEMBLrel. 16, Last sequence update)
01-WAR-2001 (TrEMBLrel. 16, Last annotation update)
GENOWIC DNN, CHROMOSOME 5, P1 CLONE:WFC16.
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
HYPOTHETICAL 26.4 KDA PROTEIN.
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Last annotation update)
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01-0CT-2000 (TrEMBLrel. 15, Last sequ
01-MAR-2001 (TrEMBLrel. 16, Last anno
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85.7%;
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Best Local Similarity 85.7
Matches 6; Conservative
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Matches 6; Conservative
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                                                                                                                           STRAIN=COLUMBIA;
MEDLINE=99397451; PubMed=10470850;
MEDLINE=99397451; PubMed=10470850;
Kaneko T., Katch T., Sato S., Nakamura Y., Asamizu E., Kotani H.,
Miyajima N., Tabata S.;
Miyajima N., Tabata S.;
Miyajima N., Tabata S.;
Miyajima O., Tabata S.;
Squence features of Arabidopsis thaliana chromosome 5. IX.
Sequence features of the regions of 1,011,550 bp covered by seventeen and TAC clones.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bombina orientalis (Oriental fire-bellied toad).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Amphibia; Batrachia, Anura, Archeobatrachia, Bombinatoridae, Bombina.
                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE-96205965; PubMed-8631814;
Nagalla S.R., Barry B.J., Falick A.M., Gibson B.W., Taylor J.E.,
Dong J.Z., Spindel E.R.;
"There are three distinct forms of bombesin. Identification of
[Leu13]bombesin, [Phe13]bombesin, and [Ser3,Arg10,Phe13]bombesin in
Eukaryota, Viridiplantae, Embryophyta, Tracheophyta, Spermatophyta,
Magnoliophyta; eudicotyledons, core eudicots, Rosidae, eurosids II;
Brassicales, Brassicaceae, Arabidopsis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
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0
                                                                                                                                                                                                                                                                                                                                                                                             Length 252;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         85.0%; Score 34; DB 13; Length 119;
83.3%; Pred. No. 9.3;
ive 0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                         1; Indels
                                                                                                                                                                                                                                                                           DNA Res. 6:183-195(1999).
EMBL; AB017065, BAB09152.1; -.
SEQUENCE 252 AA; 28622 MW; F93F8EE657D284B2 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3C9BDF367441E99A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-NOV-1996 (TrEMBLrel. 01, Last sequence update) 01-MAR-2001 (TrEMBLrel. 16, Last annotation update) PHE-13 BOMBESIN PREPROHORMONE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                         Score 35; DB 10;
Pred. No. 12;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         119 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                       1; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  the frog Bombina orientalis.";
J. Biol. Chem. 271:7731-7737(1996).
EMBL; U49450; AAC59784.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro; IPR000874; -. Pfam; PF02044; Bombesin; 1. PROSITE; PS00257; BOMBESIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE 119 AA; 13888 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                09V5C9 PRELIMINARY;
09V5C9;
01-MAY-2000 (TrEMBLrel. 13, C1
01-MAY-2000 (TrEMBLrel. 13, Li
01-JUN-2000 (TrEMBLrel. 14, Li
CG1675 PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                           87.5%;
71.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                         5; Conservative
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tches 5; Conserv
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Matches 5; Conserv
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                                                                                                           SEQUENCE FROM N.A.
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                                      Brassicales; Bra
NCBI_TaxID=3702;
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51 QWAVGH 56
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RA Admans M.D., Celniker S.E., Li P.N., Evans C.A., Gocayne J., R. Admans M.D., Celniker S.E., Li P.N., Hokkins R.A., Galle R.E., Admans M.D., Celniker S.E., Li P.N., Hokkins R.A., Galle R.E., Admans M.D., Celniker S.E., Richards S., Ashburner M., Henderson S.N., Sutton G.G., Worthan J.R., Yandell M.D., Zhang Q., Chen L.N., R. George R.A., Iewiss Y.-H.C., Blazef K.G., Change M., Miklos G.L.G., Marndon J.R., Doyle C., Barter E.G., Helt G., Nollson C.R., Miklos G.L.G., Raman B.L., Barter S.E., Miklos G.L.G., Ballew R.M., Basu A., Baxendale J., Barter Arcord L., Beasley L.M., Ballew R.M., Bauck Y., Emman B.P., Bhandari D., Belshakov D., Ballew R.M., Ballew R., Bouck J., Baller H., Cadieu E., Center A., Center A., Delcher A., Dahlke C., Davenport L.B., Davise P., Ra Burtis K.C., Busam D.A., Buller H., Cadieu E., Center A., Diet S. M., Cawley S., Dahlke C., Davenport L.B., Davise P., Bodson K., Doup L.E., Downson S., Mays A.D., Dew I., Dietz S.M., Dodson K., Doup L.E., Downson S., Galbart W.M., Glasser K., A Gong F., Gorrell J.H., Gu Z., Gunn P., Harris N.L., Harvey D., Heiman T.J., Herrandez J.R., Houck M. Harris N.L., Havey D., Heiman T.J., Wei M.-H., Ilbeywam C., Jand M., Molland T.J., Wei M.-H., Ilbeywam C., Motton K.A., Moy M., Murphy B., Moshrefi A., Moshrefi A., Mottos M., Murphy B., Murphy L., Murny D.M., Moshrefi A., Mottos M., Murphy B., Murphy L., Murny D.M., Moshrefi A., Mottos M., Murphy B., Murphy L., Murny C., Mortis J., Wollard J., Wallshim G.S., Pallard J., Purl V., Purl V., Relander R., Pellard J., Purl V., Relander R., Venter E., Wang A., Wallshim S., Wollard S., Pallard J., Purl W., Scheeler F., Shen H., Shue B.C., Siden-Klamos I., Simpson M., Strong R., Shue B.C., Siden-Klamos I., Simpson M., Strong R., Wallshim S.M., Woodage T., Worley K.C., Wu D., Yu Will S., Wolley R., Wallshim S.M., Woodage T., Worley K.C., Wu D., Yu W., Yon Y., Shu M., Shu R. P., Zaveri J.S., Zhan M., Zhang S., Zhu X., Zhu S., Zhan R., Scheeler F., Shen R., Mylliams S.M., Woodage T., Worley R., Wulliams
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;
                  Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscom.npha;
Ephydroidea; Drosophilidae; Drosophila
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gap:
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleu.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 276;
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01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
GASTRIN-RELEASING PEPTIDE, GRP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .,
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Pred. No. 22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1; Mismatches
Drosophila melanogaster (Fruit fly)
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71.4%;
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Best Local Similarity 71.*
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SEQUENCE 276 AA; 3
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                                                                                                                                  NCBI_TaxID=7227;
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us-09-630-333-9.rspt

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Pseudomonas putida.
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                                                                     NCBI_TaxID=303;
                                                                                                                                      STRAIN=PRS2000;
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                                                    Pseudomonas
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                                                                                                                 Jensen J., Conlon J.M.;
"Isolation and primary structure of gastrin-releasing peptide from a teleost fish, the trout (Oncorhynchus mykiss).";
Peptides 13:995-999(1992).
InterPro: IPR0008974; --
Pfam; PF02044; Bombesin; 1.
PROSITE; PS00257; BOMBESIN; 1.
SEQUENCE 23 AA; 2479 MW; 94CD79F70E3DB637 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                   Gaps
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Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii; Neopterygii; Teleostei; Euteleostei; Ostariophysi;
Cypriniformes; Cyprinidae; Cyprininae; Carassius.
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MEDLINE-20336817; PubMed=10876046;

Wolkoff H., Peyon P., Lin X., Peter R.E.,

"Molecular cloning and expression of cDNA encoding a brain
bombesin/gastrin-releasing peptide-like peptide in goldfish.";

Peptides 21:639-648(2000).

EMBL, AFIL1028; AAF82387.1; -.

InterPro; IPR000844; -.

InterPro; IPR000844; -.

PROSITE, PS00257; BOMBESIN; 1.
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Actinopterygii; Neopterygii; Teleostei; Euteleostei;
Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      82.5%; Score 33; DB 13; Length 157; 83.3%; Pred. No. 20; 11ve 0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                 82.5%; Score 33; DB 13; Length 23; 83.3%; Pred. No. 2.8; 1; Indels ive 0; Mismatches 1; Indels
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GASTRIN-RELEASING PEPTIDE.
; DD927EE19FD43117 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-007-2000 (TrEMBLrel. 15, Created)
01-007-2000 (TrEMBLrel. 15, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
GASTRIN-RELEASING PEPTIDE PRECURSOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-NOV-1999 (TrEMBLrel. 12, Created)
01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
HYPOTHETICAL 23.6 KDA PROTEIN (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    157 AA.
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                                                                                                 MEDLINE=93126164; PubMed=1480521;
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157 GA
18201 MW;
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Best Local Similarity 83.3
Matches 5; Conservative
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Best Local Similarity 83.3
Matches 5; Conservative
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157 AA;
                                         NCBI_TaxID=8022
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43 WAVGHL 48
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                                                                                  SEQUENCE
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SIGNAL
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Q9WWT3
ID Q9WWT3
AC Q9WWT3;
DT 01-NOV-
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Account C.K., Pham X.-0.T., Erwin A.L., Mizoguchi S.D., Warrener P., Hickey M.J., Brinkman F.S.L., Hufnagle W.O., Kowalik D.J., Lagran M., Garber R.L., Goltry L., Tolentino E., Mestbrock-Wadman S., Yuan Y., Brody L.L., Coulter S.N., Folger K.R., Kas A., Larbig K., Lim R.M., Smith K.A., Spencer D.H., Wong G.K.-S., Wu Z., Paulsen I.T., Reizer J., Saier M.H., Hancock R.E.W., Lory S., Olson M.V.; Complete genome sequence of Pseudomonas aeruginosa PAOI, an Opportunistic pathogen."; Nature 406:959-964(2000).

EMBL; ABO04870; AAG07953.1; -.

Interpro: IPR001048; -.
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Bacteria; Proteobacteria; gamma subdivision; Pseudomonadaceae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1; Indels
                                                                                                                                             Nichols N.N., Harwood C.S.;
"Aerotaxis receptor of Pseudomonas putida PRS2000.";
Submitted (JUL-1998) to the EMBL/GenBank/DDBJ databases.
EMBL; AF079997; AAD22404.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 23566 MW; F113AF955610BBE5 CRC64;
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Last annotation update)
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PROSITE; PS00902; GLUTAMATE_5_KINASE; UNKNOWN_1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Mismatches
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Pred. No. 47;
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01-MAR-2001 (TrEMBLrel. 16, C)
01-MAR-2001 (TrEMBLrel. 16, Ls
01-MAR-2001 (TrEMBLrel. 16, Ls
GLUTAMATE 5 KINASE.
PROB OR PA4565.
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                                                                                                                                                                                                                                                                                        InterPro; IPR000700; ...
InterPro; IPR001010; -..
Pfam; PF00708; PAC; 1..
Pfam; PF00999; PAC; 1..
Pfam; PF00990; DUF9; 1..
Pfam; PF00990; DUF9; 1..
Hypothetical protein.
NON, TER 211 AA; 23566
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Best Local Similarity
Thes 5; Conserve
                                                                                            SEQUENCE FROM N.A.
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RESULT 0954N79 1D 0954N79 1D 0954N79 1D 0954N79 1D 0954N79 1D 0954N 1D 09554N 1D 09554N

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Nezu J., Oku A., Jones M.H., Shimane M.; "Identification of two novel human putative serine/threonin. kluuses, VRK1 and VRK2, with structural similarity to vaccinia virus ^{12}R
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NCBI_TaxID=5664;
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Masuy D., Purnelle B., Goffeau A., Ivens A.C., Lawson D., Quail
Rajandream M.A., Barrell B.G.;
Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "A physical map of the Leishmania major Friedlin genome.";
Genome Res. 8:135-145(1998).
EMBL; AL122012: CAB58416.1; -.
InterPro; IPR000847; -.
                                                                                                                                                                                                                                                                                                          SMART; SM00220; S_TKc; 1.
ATP-binding; Serine/threonine-protein kinase; Transferase.
SEQUENCE 396 AA; 45476 MW; 5640C624BF059949 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                Score 33; DB 4; Length 396;
Pred. No. 51;
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                                                                                                                                Genomics 45:327-331(1997).

-1- SIMILARITY: TO THE SER/THR FAMILY OF PROTEIN KINASES.
EMBL, ABO0449; BAA19108.1; -.
HSSP; Q06486; ICKI.
InterPro; IPR000719; -.
InterPro; IPR00290; -.
Pfam; PF00069; pkinase; 2.
PROSITE; PS00107; PROTEIN_KINASE_ATP; UNKNOWN_1.
PROSITE; PS00107; PROTEIN_KINASE_DOM; 1.
PROSITE; PS00108; PROTEIN_KINASE_DOM; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
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PROSTITE; PS00044; HTH_LYSR_FAMILY; UNKNOWN_1.
PROSTITE; PS00215; MITOCH_CARRIER; UNKNOWN_2.
SEQUENCE 3999 AA; 43755 WW; A3D4E510517865C8 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-WAY-2000 (TrEMBLrel. 13, Created)
01-WAY-2000 (TrEMBLrel. 13, Last sequence update)
01-WAR-2001 (TrEMBLrel. 16, Last annotation update)
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                                     TISSUE=LIVER;
MEDLINE=98008921; Pubmed=9344656;
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Best Local Similarity
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SEQUENCE FROM N.A.
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SEQUENCE FROM N.A.
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     Gaps
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MEDILINE=88112873; PubMed=2828187;
MEDILINE=88112873; Chater K.F.;
"Nucleotide sequence analysis reveals similarities between proteins determining methylenomycin A resistance in Streptomyces and tetracycline resistance in eubacteria.";
Gene 58:229-241(1987).
                                                                                                                                                                                                                                                                                                                                                                                                               Bruton C.J., Wietzorrek A., Hartley N., Woodburn L., Chater K.F.; "Genes involved in methylenomycin biosynthesis from plasmid SCP1 of Streptomyces coelicolor A3(2)"; Streptomyces coelicolor A3(2)"; Submitted (MAR-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                        Plasmid pSCP1.
Bacteria; Firmicutes; Actinobacteria; Actinobacteridae;
Actinomycetales; Streptomycineae; Streptomyces.
NCBI_TaxID=1902;
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Vertebrata; Euteleostomi;
Vertebrata; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
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"Resistance, regulatory and production genes for the antibiotic methylenomycin are clustered.";
EMBO J. 4.1893-1897(1985).
EMBL; AJ276673; CAB82878.1; -.
InterPro; IPR001155; -.
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     Indels
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Last sequence update)
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 2;
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Pred. No. 49;
0; Mismatches
                                                                                                                                                      387 AA
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 Mismatches
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                                                                                                                                                        PRT;
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MEDLINE=85284984; Pubmed=2992952;
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                                                                                                                                                                                  01-0CT-2000 (TrEMBLrel. 15, 01-0CT-2000 (TrEMBLrel. 15, 01-MAR-2001 (TrEMBLrel. 16,
                                                                                                                                                                                                                                        PUTATIVE ENOYL REDUCTASE. MMYE.
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Best Local Similarity 83.3
Matches 5; Conservative
 Conservative
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                                                                                                                                                        PRELIMINARY;
                                                                                                                                                                                                                                                                            Streptomyces coelicolor.
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                                                                  271 OWLAGHL 277
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                                  2 QWXVGHL 8
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Q99986
 Matches
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131 QWTLGHI 137

Вb

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PLASMID=PG01;
MEDLINE=9332232; PubMed=7687249;
Morton T.M., Eaton D.M., Johnston J.L., Archer G.L.;
Morton T.M., Eaton D.M., Gronston J.L., Archer G.L.;
BNA sequence and units of transcription of the conjugative transfer gene complex (trs) of Staphylococcus aureus plasmid pG01.";
J. Bacteriol. 175:4436-4447(1993).
                                                                                                                                                      01.NOV-1996 (TrEMBLrel. 01, Created)
01.NOV-1996 (TrEMBLrel. 01, Last sequence update)
01.NOV-1996 (TrEMBLrel. 01, Last sequence update)
01.MAR-2001 (TrEMBLrel. 16, Last annotation update)
DNA TOPOISOMERASE I (EC 5.99.1.2) (OMEGA-PROTEIN) (RELAXING ENZYME)
(UNTWISTING ENZYME) (SWIVELASE).
TRAI OR TRSI.
Plasmid pG01, and Plasmid pSV41.
Bacteria; Firmicutes; Bacilius/Clostridium group;
Bacillus/Staphylococcus group; Staphylococcus.
NCBI_TAXID-1280;
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MEDLINE-98389645; PubMed-9721269;
MEDLINE-98389645; PubMed-9721269;
MEDLINE-98389645; PubMed-9721269;
Skurar-97., Firth N., Apisiridej S., Hettiaratchi A., Leelaporn A.,
Skurary R.A.;
"Complete nucleotide sequence of pSK41: evolution of staphylococcal
G. Bacteriol. 18014350-4359(1998).
EMBL: L1998; AAA71960.1; -.
InterPro; IPR0010380; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
PLASMID=PSV41;

PLASMID=PSV41;

MEDLINE=94123990; PubMed=8293896;

Firth N., Ridgeway K.P., Byrne M.E., Fink P.D., Johnson L.,

Paulsen I.T., Skurray R.A.;

"Analysis of a transfer region from the staphylococcal conjugative plasmid pSK41.";

Gene 136:13-25(1993).
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Pfam; PF01131; Topolsom_bac; 1.
Pfam; PF011396; zf-C4_Topoisom; 1.
Pfam; PF01751; Toprim; 1.
PROSITE; PS00396; TOPOISOMERASE_I_PROK; UNKNOWN_1.
SMART; SM00493; TOPPIM; 1.
SMART; SM04493; TOPOISOMERASE, IDRA-binding; Plasmid.
SEQUENCE 700 AA; 80742 MW; 1BB6BF2F2DB6142D CRC64;
                                                                                       700 AA.
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Best Local Similarity 83.3
Matches 5; Conservative
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RESULT 15
Q07711
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Search completed: October 25, 2001, 11:27:45 Job time: 448 sec

| ||||| 45 WAVGHL 50 3 WXVGHL 8

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Gaps

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GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.

OM protein - protein search, using sw model

October 25, 2001, 11:28:29; Search time 40.36 Seconds (without alignments) 6.790 Million cell updates/sec Run on:

US-09-630-333-9 1 XQWXVGHL 8 Title: Perfect score: Sequence:

Scoring table:

93435 seqs, 34255486 residues BLOSUM62 Gapop 10.0 , Gapext 0.5

Searched:

93435 pl number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 2000000000

Post-processing: Minimum Match 08 Maximum Match 1008 Listing first 45 summaries

SwissProt_39:* Database : Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

	Description	8944 al		P21591 bombina ori	Q09024 drosophila	0		P42991 pseudophryn	rana	0		canis	P01295 gallus gall	sus sc	alligato		_				P08340 escherichia	Q15011 homo sapien	_		influenza	influenza	P08383 influenza b	P48843 bacillus ci	P43704 haemophilus	ທ	14 seoul	10	~	P81017 echis carin
SUMMARIES	ΙΩ	ALY	BOMB_BOMVA	BOMB_BOMOR	IML2_DROME	YB9H_YEAST	LITO_LITAU	BOML PSEGU	RANA_RANPI	GRP_RANRI	GRP_SCYCA	GRP_CANFA	GRP_CHICK	GRP_PIG	GRP_ALLMI	NEUB_XENLA	GRP_SHEEP	GRP_RAT	GRP_HUMAN	GRP_BOMOR	LIVH_ECOLI	HERP_HUMAN	EX5C_ECOLI	VMT2_INBAC	VMT2_INBAD	VMT2_INBLE	VMT2_INBSI	YBAB_BACCI	TOP3_HAEIN	RRPL_HANTV	RRPL_SEOU8	RANC_RANPI	RANR_RANRU	ECHA_ECHCA
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оF	Query Match I	95.0	95.0	95.0	92.5	90.0	85.0	85.0	85.0	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	80.0	80.0	80.0	80.0	77.5	77.5	77.5	77.5	75.0	75.0	75.0
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Q05632 salmonesta P75806 scherichia Q13524 bano sapien P45479 ratus norv Q8631 mus musculu Q8631 mus musculu Q80372 nasonia vit P36785 human papil Q80903 haru papil Q80904 haru papil Q80966 a rhizchiu Q9kqf5 vibrio chol P14294 cacherichia P13099 sacchar nyc	14 AA.	ate) pdate)	(Midwife toad). Chordata, Craniata, Vertebrata, Euteleostonii; Anura; Archeobatrachia; Discoglossidae; Alytes	SEQUENCE. MEDLINE-84131098; PubMed-6141890; Erspamer V., Erspamer G.F., Mazzanti G., Endean R.; "Active peptides in the skins of one hundred amphibian species took Australia and Papua New Guinea."; Comp. Blochem. Physiol. 77C:99-108(1984)1- SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN	PYRROLIDONE CARBOXYLIC ACID. AMIDATION. D3C4E4D3AF129666 CRC64;	DB 1; Length 14; 0.078; thes 1; Indels 0; Gafes	late) ipdate) ', and Vertebrata; Eutelevante, tombin
CBIT_SALTY YBJG_ECOLI AQPG_HUMAN PPT_MOUSE POT_ANGVI VEZ_HPV17 VEZ_HPV17 VEZ_HPV17 TOP3_USCH TOP3_LCCLI TOP3_YECLI TOP3_YECLI	PRT; 1	ed) sequence update) annotation update	e toad). a; Craniata; Archeobatra	41890; Mazzanti G. ns of one hu nea."; :99-108(1984	1. PYRROLIDONE CARBG AMIDATION. D3C4E4D3AF129666	Score 38; Pred. No. 0; Mismatc	MB_BONVA BOMB_BONVA BOMB_BONVA FO1296; 701-1986 (Rel. 01, Created) 701-FEB-1991 (Rel. 17, Last sequence update) 701-FEB-1995 (Rel. 31, Last annotation update) 800MBESIN PRECURSOR 800Mbina variegata (Yellow-bellied toad), and 800mbina bombina (Fire-bellied toad). Eukaryota; Metasoa; Chordata; Craniata; Vertebra Amphibia; Batrachia; Anura; Archeobatrachia; Bon 113
198 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	STANDARD;	. 09, Creat . 28, Last . 37, Last	ans (Midwif :oa; Chordat :hia; Anura;	; PubMed=61 spamer G.F., in the ski tpua New Gui Physiol. 77C BELONGS TO	InterPro; IPRO00874; Pfam; PF02044; Bombesin; 1. PROSITE; PS00257; BOMBESIN; 1 Bombesin family; Amidation. MOD_RES 1 1 1 MOD_RES 14 14 SEQUENCE 14 AA; 1554 MW;	95.0%; lty 85.7%; servative	BOMVA BOMB_BOWA STANDARD; PR. BOMB_BOWA STANDARD; PR. P01295, 21-JUL.1986 (Rel. 01, Created) 01-FEB-1991 (Rel. 17, Last seque) 01-FEB-1995 (Rel. 31, Last annot. BOMBESIN PRECURSOR. BOMDina variegata (Yellow-bellie Bombina bombina (Fire-bellied to. Eukaryota; Metazoa; Chordata; Cr. Amphibia; Balrachia; Anura; Arch (SI_TAXID=8348, 8345; E1] SECUENCE FROM N.A. SPECIES-B.variegata; TISSUE-SKIN MEDLINE-90242964; Pubmed-2335218
30 30 30 30 30 30 30 30 30 30 30 30 30 3	ALYOB)8944; -NOV-1988 (Rel -FEB-1994 (Rel -DEC-1998 (Rel	ALYTESIN. Alytes obstetricans Eukaryota; Metazoa; Amphibia; Batrachia; NCBI_TAXID=8443;	NCE. NE-84131098 Mer V., Ers ve peptides alia and Pe Biochem. F	AMILI. Pro; IPR0008 PF02044; BO TE; PS00257; Sin family; ES 1 ES 14	atch cal Similarity 6; Conserv OWXVGHL 8 OWAVGHL 13	BOMYA BOMB_BOMVA & BOMS_BOMS_BOMS_BOMS_BOMS_BOMS_BOMS_BOMS_
4 4 4 4 4 4 4 4 5 5 5 5 5 5 5 5 5 5 5 5	ET,	7001		RY SEQUE RX MEDLI RA Erspa RT "Acti RT Austr RL Comp.		Query Match Best Local Matches Qy 2 QWX Db 7 QWA	RESULT 2 BOMB_BOMVA ID BOMB_E AC P0129 DT 21-UU DT 01-FEE DE BOMDIE OC BUDDE OC BUDDE OC AMPALT OC AMPALT RN III RN SEQUE RC SPECTIE RY SEQUE RY SE

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RESULT
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                                                                                                                                                           Arch. Biochem. Biophys. 148:443-446(1972).
-!- FUNCTION: STIMULATES SMOOTH MUSCLE CONTRACTION. ROLE IN INDUCTION
OF HYDOTHERMIA, STIMULATION OF DNA REPLICATION AND RELEASE OF MANY
GASTROINTESTINAL HORMORES.
Richter K., Egger R., Kreil G.; "Molecular cloning of a cDNA encoding the bombesin precursor in skin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bombina orientalis (Oriental fire-bellied toad).
Eukaryota: Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Archeobatrachia; Bombinatoridae; Bombina.
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AMIDATION (G-56 PROVIDE AMIDE GROUP).

9692B50600FAF618 CRC64;
                                                                                                        Anastasi A., Erspamer V., Bucci M.; Isolation and amino acid sequences of alytesin and bombesin, two analogous active tetradecapeptides from the skin of European discoglossid frogs.";
                                                                                                                                                                                                                SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
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MEDLINE=91088602; PubMed=2263631;
Spindel E.R., Gibson B.W., Reeve J.R. Jr., Kelly M.;
"Cloning of cDNAs encoding amphibian bombesin: evidence for the
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cleavage on pair of basic residues;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1; Indels
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(Rel. 18, Last sequence update)
(Rel. 36, Last annotation update)
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                                                                                 and B.bombina;
                                                                            SPECIES=B.variegata, and B.bombin
MEDLINE=72163516; PubMed=4537042;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   24 B0
55 B0
42 P0
55 A1
12341 MW;
                         Bombina variegāta.";
3S Lett. 262:353-355(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            95.0%;
85.7%;
                                                                                                                                                                                                                                                                                                                                                               EMBL; X52447; CAA36686.1; -.
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PIR; B01564; BSTDY.
PIR; S09095; S09095.
InterPro; IPR000874; -.
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                                                                 SEQUENCE OF
                                                                                                                                                                                                                            FAMILY.
                                        FEBS Lett.
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01-MAY-1991
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P21591;
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MOD_RES
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BOMB_BOMOR
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relationship between bombesin and gastrin-releasing peptide.";
Proc. Natl. Acad. Sci. U.S.A. 87:9813-9817(1990).
-1- FUNCTION: STIMULATES SMOOTH MUSCLE CONTRACTION. ROLE IN INDUCTION
OF HYPOTHERMIA, STIMULATION OF DNA REPLICATION AND RELEASE OF MANY

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                                                                                                                                                                              modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                SPECIFICITY: LOCALIZED TO THE CUTANEOUS GRANULAR GLANDS IN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
NCBI_TaxID=7227;
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DEVELOPMENTAL STAGE: FIRST EXPRESSED AT THE CELLULAR BLASTODERM
STAGE AND CONTINUES TO BE EXPRESSED THROUGH SUBSEQUENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                               AMIDATION (G-59 PROVIDE AMIDE GROUP). 3A3D84EA2445A4A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PUNCTION: ESSENTIAL DEVELOPMENTAL ROLE DURING EMBRYOGENESIS, PARTICULAR THE NORMAL DEVELOPMENT OF THE NERVOUS SYSTEM. MAY SUBCLICULAR LOCATION: EXTRACELLUIAR.
TISSUE SPECTIFICITY: DETECTED IN SEVERAL SITES INCLUDING THE YENTRAL NEUROBETODERM, THE TRACHEAL PITS, THE PHARYNX AND OESOPHAGUS, AND SPECIFIC NEURONAL CELL BODIES, WHERE IT IS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
STRARNE-GANNON-S; TISSUE-Embryo;
MEDLINE-94139565; Pubmed-8306886;
Garbe J.C., Yang E., Fristrom J.W.;
"IMP-Lz: an essential secreted immunoglobulin family member implicated in neural and ectodermal development in Drosophila.";
Development 119:1237-1250(1993).
                                                      SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
                                                                                                                                                                                                                                                                                                                                     Pfam; PF02044; Bombesin; 1.
PROSITE; PS00257; BOMBESIN; 1.
Bombesin family; Amidation; Cleavage on pair of basic residues;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Drosophila melanogaster (Fruit fly).
Eukaryota: Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 38; DB 1; Length 119; Pred. No. 0.57;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-FEB-1995 (Rel. 31, Created)
01-FEB-1995 (Rel. 31, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
NEURAL/ECTODERMAL DEVELOPMENT FACTOR IMP-L2 PRECURSOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     263 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                              BOMBESIN
GASTROINTESTINAL HORMONES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    13863 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           95.0%;
85.7%;
                                                                                                                                                                                                                                                                                 EMBL; M55255; AAA48551.1; -.
                                     THE SKIN AND THE BRAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STANDARD;
                                                                                                                                                                                                                                                                                                                    InterPro; IPR000874; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                119 AA;
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Best Local Similarity
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45
58
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Q09024;
01-FEB-1995 (
                                                                             FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                        PEPTIDE
MOD_RES
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                        Signal.
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Pred. No. 2.7;

85.78;

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Best Local Similarity
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BOML_PSEGU
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between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (see http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                          NEURAL/ECTODERMAL DEVELOPMENT FACTOR IMP-
                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Doignon F., Biteau N., Crouzet M., Aigle M.; "The complete sequence of a 19,482 bp segment located on the right arm of chromosome II from Saccharomyces cerevisiae.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Saccharomyces cerevisiae (Baker's yeast).
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
Saccharomycetales; Saccharomycetaceae; Saccharomyces.
                                                                                                                                                                                                                                                                                                                            ;
0
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01-0cT-1994 (Rel. 30, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
HYPOTHETICAL 26.1 KDA PROTEIN IN POP4-SHMI INTERGENIC REGION
                                                                                                                                                                                                                                                                                                  Score 37; DB 1; Length 263; Pred. No. 1.9; 0; Mismatches 1; Indels
                                                                                                                                                                                                                                                              44AADB1B22DD1804 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  66699F37B0013088 CRC64
                                                                                                                                                                                     L2.
IG-LIKE C2-TYPE DOMAIN.
IG-LIKE C2-TYPE DOMAIN.
BY SIMILARITY.
BY SIMILARITY.
                                                                                                           FlyBase; FBgn0001257; ImpL2.
InterPro; IPR003006; -.
Pfam; PF00047; 1g; 2.
Immunoglobulin domain; Cell adhesion; Signal.
SIGNAL 1 23 POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                        232 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Yeast 9:189-199(1993).
-!- SIMILARITY: TO S.POMBE SPAC16E8.14C.
                                                                                                                                                                                                                                                                                                                                                                                                                                      PRT;
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MEDLINE-93220397; PubMed-8465606;
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SEQUENCE 232 AA; 26068 MW;
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85.7%;
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                                                                                     EMBL; L23066; AAB59251.1; -.
                                                                                                                                                                                                                                                              29421
                                                                                                                                                                                                                                                                                                                            6; Conservative
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135
240
173
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SGD; S0000465: VRP24
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Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                             263 AA;
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184
76
191
173
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P38340;
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DISULFID
DISULFID
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SEQUENCE
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Length 232;

DB 1;

Score 36;

90.08;

Query Match

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MEDLINE=78003546; PubMed=908397;
Anastasi A., Montecucchi P.C., Angelucci F., Erspamer V., Endevan R., "Glu(oMe)3-litorin, the second bombesin-like peptide occurring in methanol extracts of the skin of the Australian frog Litoria aurea.", Experientia 33:1289-1289(1977).
-:- SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Neobatrachia; Bufonoidea; Myobatrachidae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE-75187011; PubMed-1140241;
Anastasi A., Erspamer V., Endean R.;
"Aminoacid composition and sequence of litorin, a bombesin-11k,
nonapeptide from the skin of the Australian leptodactylid froq
Litoria aurea.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ÷
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0
                                                                                                                                                                                                                                                                                           Litoria aurea (Australian frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleos!
Amphibia; Batrachia; Anura; Neobatrachia; Bufonoidea; Hylidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PIR, S07205; SU/LU.
InterPro; IPR000874; ...
Pfam; PF02044; Bombesin; 1.
PROSITE; PS00257; BOMBESIN; 1.
Bombesin family; Amidation; Methylation.
PYRROLIDONE CARBOXYLIC ACID.

AMETHYLATION (IN A VARIANT).

AMETHYLATION (IN A VARIANT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1; Indels
  Indels
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1;
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Pred. No. 9.3e+04;
0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
01-NOV-1995 (Rel. 32, Last annotation update)
BOMBESIN-LIKE PEPTIDE L (FG-L).
                                                                                                                                                                                                             01-NOV-1988 (Rel. 09, Created)
01-FEB-1994 (Rel. 28, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
                                                                                                                                                                          9 AA.
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  Mismatches
                                                                                                                                                                            PRT;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Experientia 31:510-511(1975)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        85.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STANDARD;
6; Conservative
                                                                                                                                                                            STANDARD;
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=30349;
                                                             139 QWCVGHL 145
                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=8371;
                                     2 QWXVGHL 8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QWXVGH 7
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                                                                                                                                                                        LITO_LITAU
P08945;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BOML_PSEGU
P42991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                                           LITORIN.
                                                                                                                                                                                                                                                                                                                                                       Litoria
                                                                                                                                   RESULT 6
LITO_LITAU
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4

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i aps

0;

Length 82 Indels

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MEDLINE=91315477; PubMed=1859413;
Conlon J.M., O'Harte F., Vaudry H.;
Conlon J.M., O'Harte F., Vaudry H.;
"Primary structures of the bombesin-like neuropeptides in frog brain show that bombesin is not the amphibian gastrin-releasing peptide.";
Blochem. Blophys. Res. Commun. 178:226-530(1991).
-1- SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Scyliorhinus canicula (Spotted dogfish) (Spotted catshark).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Chondrichthyes;
Elasmobranchii; Galeomorphii; Galeoidea; Carcharhiniformes;
Scyliorhinides; Scyliorhinus.
                                      AMIDATION (G-59 PROVIDE AMIDE GROUP). 09194FFD0E7436DE CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                            Rana ridibunda (Laughing frog) (Marsh frog).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Amphibia, Batrachia, Anura, Neobatrachia, Ranoidea, Ranidae, Rana.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conlon J.M., Henderson I.W., Thim L.; "Gastrin-releasing peptide from the intestine of the elasmobranch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 33; DB 1; Length 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AMIDATION. F81FBAE862CDC371 CRC64;
                                                                                                              DB 1;
2,5;
                                                                                                                                                                                                                                                                                                                                                                        01-NOV-1991 (Rel. 20, Last sequence update)
01-APR-1993 (Rel. 25, Last annotation update)
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01-MAR-1989 (Rel. 10, Last sequence update)
01-MAR-1992 (Rel. 21, Last annotation update)
GASTRIN-RELEASING PEPTIDE (GRP).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0.56;
                                                                                                            Score 34; DB 1
Pred. No. 2.5;
0; Mismatches
                                                                                                                                                                                                                                                                                                                    10 AA.
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0; Mismatches
                     RANATENSIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro: IPR000874; -.
Pfam; PF02044; Bombesin; 1.
PROSTE; PS00257; BOMBESIN; 1.
Bombesin family; Anidation.
                                                                                                                                                                                                                                                                                                                                                     01-NOV-1991 (Rel. 20, Created)
                                                                                                            85.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           82.5%;
 47
58
58
9159 MW;
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                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                    STANDARD;
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                                                                                                              Query Match
Best Local Similarity
Matches 5; Conserv
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Best Local Similarity
Matches 5; Conserv
                                                        82 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=8406;
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 28
48
58
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P09472;
                                                                                                                                                                                                                                                                                                                    GRP_RANRI
P23260;
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                                                        SEQUENCE
                 PEPTIDE
MOD_RES
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                               MEDINE=90287814; PubMed=2356157;
Simmaco M., Severini C., de Biase D., Barra D., Bossa F.,
Roberts J.D., Melchiorri P., Erspamer V.;
"Six novel tachykinin- and bombesin-related peptides from the skin of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A. MEDLINE-88330837; PubMed-2458345; Krane I.M., Naylor S.L., Helin-Davis D., Chin W.W., Spindel E.R.; "Molecular cloning of cDNAs encoding the human bombesin-like peptide neuromedin B. Chromosomal localization and comparison to cDNAs encoding its amphibian homolog ranatensin."; J. Biol. Chem. 263:13317-13323(1988).
                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Neobatrachia; Ranoidea; Ranidae; Rana
NCBI_TaxID=8404;
                                                                                                        the Australian frog Pseudophryne guntheri.", Peptides 11:299-304(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Fed. Proc. 29:282-282(1970).
-!- SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE; PS00257; BOMBESIN; 1.
Bombesin family; Amidation; Cleavage on pair of basic residues;
                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Nakajima T., Tanimura T., Pisano J.J.; "Isolation and structure of a new vasoactive polypeptide.";
                                                                                                                                                                                                                                                                               PYRROLIDONE CARBOXYLIC ACID.
                                                                                                                                                                                                                                                                                                                                                                      Score 34; DB 1; Length 13;
Pred. No. 0.45;
                                                                                                                                                                                                                                                                                                                                                                                                             1; Indels
                                                                                                                                                                                                                                                                                                AMIDATION.
D6DE0D24BD98C366 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-NOV-1988 (Rel. 09, Created)
01-NOV-1988 (Rel. 09, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              82 AA
                                                                                                                                                                                                                                                                                                                                                                                                             0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Rana pipiens (Northern leopard frog).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                                                                                                                                                                                   InterPro; IPR000874; -. Pfam; PF02044; Bombesin; 1. PR0051E; PS00257; BOMBESIN; 1. Bombesin family; Amidation.
                                                                                                                                                                                                                                                                                                                                                                    85.0%;
ilarity 83.3%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; M21552; AAA49533.1; -.
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PROSITE; PS00257; BOMBESIN;
                                                                                                                                                                                                                                                                                                                  13 AA; 1372 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro; IPR000874; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RANATENSIN PRECURSOR.
                                                                                                                                                                                                                                                                                                                                                     ery Match
Best Local Similarity
                                                                                                                                                                                      PIR; A60409; A60409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PIR; B28945; B28945
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE OF 48-58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       UH UH QWAVGH 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                2 QWXVGH 7
                   TISSUE=Skin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RANA_RANPI
P08950;
                                                                                                                                                                                                                                                                                              MOD_RES
SEQUENCE
SECUENCE
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SIGNAL
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RESULT 8
RANA_RANPI

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Gaps

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Indels

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[2]
SEQUENCE OF 18-27
SPECIES-Pig;
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SEQUENCE
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                                                                                                                                                                    Gaps
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                                                                                                                                                                                                                                                                          01-NOV-1988 (Rel. 09, Created)
01-NOV-1988 (Rel. 09, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
GASTRIN-RELEASING PEPTIDE (GRP) [CONTAINS: NEUROMEDIN C (GRP-10)].
                                                                                                                                                                                                                                                                                                                                                                                                                "Amino acid sequences of three bombesin-like peptides from canine
                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis
fish, Scyliorhinus canicula (common dogfish).";
Gen. Comp. Endocrinol. 68:415-420(1987).
-!- FUNCTION: GRP STIMULATES GASTRIN RELEASE AS WELL AS OTHER
GASTROINTESTINAL HORMONES.
-!- SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                -!- SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN FAMILY.
                                                                                                                                                                    ;
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                                                                                                                                                                                                                                                                                                                                                                                                                          intestine extracts.";
J. Biol. Chem. 258:5582-5588(1983).
-!- FUNCTION: GRP STIMULATES GASTRIN RELEASE AS WELL AS OTHER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 33; DB 1; Length 27;
Pred. No. 1.4;
); Mismatches 1; Indels
                                                                                                                                                Length 25;
                                                                                                                                                                   1; Indels
                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=83213518; PubMed=6853532;
Reeve J.R. Jr., Walsh J.H., Chew P., Clark B., Hawke
Shively J.E.;
                                                                                                         AMIDATION.
B735F911B89007F8 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AMIDATION.
9D9317261B7C7D65 CRC64;
                                                                                                                                               Score 33; DB 1;
Pred. No. 1.3;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACSULITY
ID GRP_CHICK STANDARD; PRT; 27 AA.
AC P01295;
DT 21-JUL-1986 (Rel. 01, Created)
DT 21-JUL-1986 (Rel. 01, Last sequence update)
                                                                                                                                                                                                                                                         27 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NEUROMEDIN C.
                                                                                                                                                                                                                                                          PRT;
                                                        PIR; S06263; S06263.
InterPro; IPR000874; ...
Pfam; PF02044; Bombesin; 1.
PROSITE; PS00257; BOMBESIN; 1.
Bombesin family; Amidation.
MOD_RES 25 25 AMII
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pfam; PF02044; Bombesin; 1.
PROSTIE; PS00257; BOMBESIN; 1.
BOmbesin family; Amidation.
PEPTIDE 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                         GASTROINTESTINAL HORMONES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            82.5%;
                                                                                                                                               82.5%;
                                                                                                                  25 AA; 2781 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2889 MW;
                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                          STANDARD;
                                                                                                                                                                                                                                                                                                                            Canis familiaris (Dog)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR000874;
                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               27 AA;
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19 WAVGHL 24
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MOD_RES
SEQUENCE
                                                                                                                                                                                                                                                         GRP_CANFA
P08989;
                                                                                                                  SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                    KESULT 11
GRP_CANFA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 12
                                                                                                                                                                 Matches
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                                                                                                                                             , nat
15-JUL-1999 (Rel. 38, Last annotation update)
GASTRIN-RELEASING PEPTIDE (GRP) (PROVENTRICULAR PEPTIDE) (CONLAINS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21-JUL-1986 (Rel. 01, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
GASTRIN-RELEASING PEPTIDE (GRP) [CONTAINS: NEUROMEDIN C (GRP 10)].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Euteleos Lomi;
                                                                                          Gallus gallus (Chicken).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleoste
Archosauria, Aves, Neognathae, Galliformes, Phasianidae, Phas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         :.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AMIDATION.
3C121D0118D551C7 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota, Metázoa, Chordata, Craniata, Vertebrata,
Mammalia, Eutheria, Cetartiodactyla, Suina, Suidae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sus scrofa (Pig), and Cavia porcellus (Guinea pig).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              non-antral gastric tissue.";
Biochem. Biophys. Res. Commun. 90:227-233(1979)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 33; DB 1;
Pred. No. 1.4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     27 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NEUROMEDIN C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SPECIES=Pig;
MEDLINE=80042433; PubMed=496973;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pfam; PF02044; Bombesin; 1.
PROSITE; PS00257; BOMBESIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21-JUL-1986 (Rel. 01, Created)
21-JUL-1986 (Rel. 01, Last sequ
15-JUL-1999 (Rel. 38, Last anno
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        82.5%;
83.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bombesin family, Amidation. PEPTIDE 18 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2842 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STANDARD;
                                                NEUROMEDIN C (GRP-10)].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=9823, 10141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PIR; S08150; S08150.
InterPro; IPR000874;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 27 AA;
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3 WXVGHL
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                                                                                                                                                                                                                                                                                                                                                      Gaps
            Minamino N., Kangawa K., Matsuo H.; "Neuromedin C: a bombesin-like peptide identified in porcine spinal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-JUL-1993 (Rel. 26, Created)
01-JUL-1999 (Rel. 26, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
15-JUL-1999 (Rel. 38, Last annotation update)
GASTRIN-RELEASING PEPTIDE (GRP) [CONTAINS: NERROMEDIN C (GRP-10)].
Alligator mississippiensis (American alligator).
Bararyota: Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Archosauria; Crocodylidae; Alligatorinae; Alligator.
                                                                             SPECIES—C. porcellus;
MadDLINE=8034997; PubMed—3668528;
Shaw C., Thim L., Conlon J.M.;
Primary structure and tissue distribution of guinea pig gastrin-
"Perasaing peptide.";
J. Neurochem. 49:1348-1354(1987).
-i. FUNCTION: GRP STIMULATES GASTRIN RELEASE AS WELL AS OTHER
GASTROINTESTINAL HORMONES.
-i. SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
PAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -! - SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
                                                                                                                                                                                                                                                                                                                                                     ;
0
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                                                                                                                                                                                                                                                                                                                             82.5%; Score 33; DB 1; Length 27; 83.3%; Pred. No. 1.4; 1:ve 0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 33; DB 1; Length 28;
Pred. No. 1.5;
0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                AMIDATION.
FA1017260210410F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AMIDATION.
A74DB0487D844963 CRC64;
                                              Biochem. Biophys. Res. Commun. 119:14-20(1984).
                                                                                                                                                                                                                                                                                                                                                                                                                                                          28 AA
                                                                                                                                                                                                                                                                      NEUROMEDIN C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NEUROMEDIN C.
MEDLINE=84153890; PubMed=6546686;
                                                                                                                                                                                                                     InterPro; IPR000874; -
Pfam; PF02044; Bombesin; 1.
PROSITE; PS00257; BOMBESIN; 1.
BOMBOSIN family; Amidation.
PEPTIDE 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            InterPro; IPR000874; -. Pfam; PF02044; Bombesin; 1. PROSITE; PS00257; BOMBESIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GASTROINTESTINAL HORMONES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 82.5%;
Best Local Similarity 83.3%;
Matches 5; Conservative
                                                                                                                                                                                                                                                                                27 27
27 AA; 2806 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bombesin family; Amidation.
PEPTIDE 19 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         28 28
28 AA; 2786 MW;
                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                         STANDARD;
                                                                                                                                                                                                PIR; A01562; RHPGA.
PIR; A60206; RHGPGA.
                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TISSUE-Stomach;
                                                                                                                                                                                                                                                                                                                                                                                       3 WXVGHL 8
                                                                                                                                                                                                                                                                                MOD_RES
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                        GRP_ALLMI
P31886;
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SEQUENCE
                                                                    SEQUENCE
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Gaps

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Proc. Natl. Acad. Sci. U.S.A. 89:9819-9822(1992).
-!- FUNCTION: MAY BE A GROWTH FACTOR REQUIRED FOR THE HIGH RATE OF CELL DIVISION ENSUING AFTER FERTILIZATION, OR MAY HAVE A ROLE AS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    iaps
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AMIDATION (G-55 PROVIDE AMIDE GROUP).
2CB146BA082A2442 CRC64;
                                                                                                                                                                                     Xenopus laevis (African clawed frog),
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SECRETAGOGUE THAT TRIGGERS THE RELEASE OF STORED COMPONENTS.
- TISSUE SPECTFICITY: BAIN, INTESTINE, AND OVARIES AND EARLY
EMBRYCS (STAGES 2 AND 10.)
-1. SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pfam; PF0244; Bombesin; 1.
PROSITE; PS00257; BOMBESIN; 1.
Bombesin family; Amidation; Cleavage on pair of basic residues;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ÷
                                                                                                                                                                                                                                                                                                                                                                                                                             Wechselberger C., Kreil G., Richter K.;
"Isolation and sequence of a cDNA encoding the precursor of a
bombesin-like peptide from brain and early embryos of Xenopus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         82.5%; Score 33; DB 1; Length 120;
66.7%; Pred. No. 5.6;
iive 1; Mismatches 1; Indels
                                                                     01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
                              120 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Search completed: October 25, 2001, 11:28:29 Job time: 477 sec
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                                                                                                                                                                                                                                                                                                                                                                          TISSUE=Brain;
MEDLINE=93028554; PubMed=1409705;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    29 PC
44
54 NE
54 AN
14384 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; L01530; AAA49912.1; -.
                              STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                               NEUROMEDIN B PRECURSOR.
                                                                                                                                                                                                                                                                Xenopodinae; Xenopus.
NCBL_TaxID=8355;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IPR000874;
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30
45
54
120 AA;
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Best Local Similarity
Matches 4; Conserv
                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  || :||
47 QWAIGH 52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 QWXVGH 7
                           NEUB_XENLA
P43443;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              laevis.";
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SEQUENCE
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NEUB_XENLA
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GenCore version 4.5

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OM protein - protein search, using sw model

Run on: October 25, 2001, 11:27:45; Search time 135.34 Seconds

(without alignments)

7.821 Million cell updates/sec

Title: US-09-630-333-10
Perfect score: 38
Sequence: 1 XOWAVXHL 8
Scoring table: BLOSUM62
Gapop 10.0, Gapext 0.5
Searched: 425026 segs, 132305027 residues
```

Al number of hits satisfying chosen parameters: 425026

Minimum DB seq length: 0 Maximum DB seq length: 2000000000 Post-processing: Minimum Match 08
Maximum Match 1008
Listing first 45 summaries

Database : SPTREMBL_16:*

1: Sp_archea:*
2: Sp_bacteria:*
3: Sp_lung1:*
4: Sp_lung1:*
5: Sp_lunvertebrate:*
6: Sp_mammal:*
7: Sp_mhc:*
8: Sp_organelle:*
9: Sp_plage:*
10: Sp_plage:*
11: Sp_rodent:*
12: Sp_unclassified:*
13: Sp_vertebrate:*
14: Sp_vertebrate:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

		æ				
Result No.	Score	Query Match	Query Match Length DB	DB	ID	Description
1	33	86.8	517	14	Q9DSP4	Q9dsp4 saint croix
7	32	84.2	174	10	Q9M2H1	Q9m2h1 arabidopsis
٣	32	84.2	328	7	Q9X5G8	09x5q8 streptomyce
4	32	84.2	353	2	021051	021051 caenorhabdi
2	32	84.2	806	13	Q9DDL2	Q9ddl2 brachydanio
9	31	81.6	95	7	Q911X2	Q9ilx2 pseudomonas
7	31	81.6	86	14	064981	Q64981 artichoke l
80	31	81,6	119	13	090253	Q90253 bombina ori
6	31	81.6	183	~	Q9R251	Q9rz51 deinococcus
10	31	81.6	216	11	Q9JM34	Q9jm34 mus musculu
11	31	81.6	232	m	Q9UVE4	Q9uve4 zygosacchar
12	31	81.6	236	7	085726	085726 streptomyce
13	31	81.6	256	ო	Q9P6Y1	Q9p6y1 neurospora
14	31	81.6	266	S	Q9VZF7	O9vzf7 drosophila
15	31	81.6	273	8	091J05	09tjq5 prototheca
16	31	81.6	309	S	Q27106	Q27106 trichomonas
17	31	81.6	325	7	Q9PAR1	Q9par1 xylella fas
18	31	81.6	357	10	065366	O65366 antirrhinum
19	31	81.6	359	10	Q9FUK9	Q9fuk9 pisum sativ

Q985v/, rabidobsis Q9vcu2 .rasph a Q91yh³ .rabid .s Q9nd8 nome suplen O15057 home suplen	Opps30 oncorbynchu Opksv3 : reptomyce Opissy : restomyce P74711 s.mechoryst	F : 3 .	Oypeed alla fas O72694 irlev mild Oypae5 sytella fas O91064 redomonas	O9Kzgź *!reptomyce O9twms cernorhabdi O9m4a% prsum sati O65815 nelianthus O55726 nechoewst	ba ca
675 10 Q9S9V7 696 5 Q9VCU2 703 10 Q9LXH3 273 4 Q9NUG8 275 4 O15057	5 H 5 H 5	4110	104,000	325 2 09KKG2 375 5 09TVM5 453 10 09M4A9 520 10 065815 691 2 055726	700 2 Q07711 719 14 P87541 721 2 Q9K7H4 858 5 Q17647
81.6 81.6 81.6 81.6	78.9 9.87 9.80 9.87	78.9 78.9 9.8	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		78.9 78.9 78.9
7 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	2 2 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	29 30 31	1 W W W W C	3 / 3 8 4 4 4 0 4 1	4 4 4 4 2 6 4 8 2

ALIGNMENTS

RESULT Q9DSP4	LT 1 P4
d z	Q9DSP4 PRELIMINARY; PRT; 517 AA.
DI TO	01-MAR-2001 (TrEMBLrel. 16, Created)
DŢ	16,
DT	(TrEMBLrel. 16, Last
DE	NS1.
OS	Saint Croix river virus.
ပ္ပ	Viruses; dsRNA viruses; Reoviridae; Orbivirus.
ŏ	NCBI_TaxID=104581;
RN	[1]
RP	SEQUENCE FROM N.A.
RA	o P., de Lamballerie X.;
RT	"Complete nucleotide sequence of Saint Croix river virus.";
RL	Submitted (APR-1999) to the EMBL/GenBank/DDBJ databases.
DR	EMBL; AF145403; AAG34262.1;
ζS	SEQUENCE 517 AA; 58030 MW; 0104A543FB2A1B1A CRC64;
N N N	Query Match 86.8%; Score 33; DB 14; Length 517 Best Local Similarity 71.4%; Pred. No. 51; Matches 5; Conservative 1; Mismatches 1; Indels Gaps
δλ	2 QWAVXHL 8
qq	500 QWALAHL 506
RESULT 09M2H1	LLT 2
i di	O9M2H1 PRELIMINARY: PRT: 174 AA.
AC	
DŢ	01-OCT-2000 (TrEMBLrel. 15, Created)
DŢ	
DŢ	15, Last
DE	AL 19.2 KDA PROTEIN.
ВN	F14P22.40.
SO	Arabidopsis thaliana (Mouse-ear cress).
8	Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermater; ta,
႘	Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosina II;
ဗ	Brassicales; Brassicaceae; Arabidopsis.

۲;

OX RRA RRA RRA RRA DR KW KW KW KW

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Uren A.G., O'Rourke K., Aravind L., Pisabarro M.T., Seshagiri S., Koonin E.V., Dixit V.M.;
Koonin E.V., Dixit V.M.;
"Identification of Paracapases and Metacaspases. Two Ancient Families of Caspase-like Proteins, One of which Plays a Key Role in MALT
       Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea; Rhabditidae; Peloderinae; Caenorhabditis.
NCBL_TaxID=6239;
                                                                                                                              Wilson R., Ainscorpula. Anderson K., Baynes C., Berks M.,
Bonfield J., Burton J., Connell M., Copsey T., Cooper J., Coulson A.
Craxton M., Dear S., Du Z., Durbin R., Favello A., Fulton L.,
Jones M., Kershaw J., Kirsten J., Hillier L., Jier M., Johnston L.,
Lightning J., Lloyd C., Mcmurray A., Mortimore B., O'Callaghan M.,
Parsons J., Lloyd C., Mcmurray A., Mortimore B., O'Callaghan M.,
Smaldon N., Smith A., Sonnhammer E., Staden R., Sulston J.,
Thierry Mieg J., Thomas K., Vaudin M., Vaughan K., Waterston R.,
Watson A., Weinstock L., Wilkinson-Sproat J., Wohldman P.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Brachydanio rerio (Zebrafish) (Zebra danio).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Setinopteryyii; Neopterygii; Teleostei; Euteleostei; Ostariophysi;
Cyprinifozmes; Cyprinidae; Rasborinae; Danio.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              84.2%; Score 32; DB 13; Length 80 ilarity 57.1%; Pred. No. 1.3e+02; Conservative 2; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Submitted (APR-1996) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      158.1; -.
40061 MW; 7961772B498E3052 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Lymphoma.";
Mol. Cell 6:961-967(2000).
EMBL, AR316598; AAG38590.1; -.
SEQUENCE 806 AA; 90754 MW; 589A8BC2013B0A51 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5;
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Pred. No. 55;
1; Mismatches
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01-MAR-2001 (TrEMBLrel. 16, Last seq
01-MAR-2001 (TrEMBLrel. 16, Last ann
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT;
                                                                                               STRAIN=BRISTOL N2;
MEDLINE=94150718; PubMed=7906398;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        84.2%;
ilarity 71.4%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                             Nature 368:32-38(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Submitted (APR-1996) to
EMBL, U53332, AAC71158.
SEQUENCE 353 AA; 400
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Best Local Similarity
Matches 4; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A. STRAIN-BRISTOL N2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRAIN-BRISTOL N2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
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201 EWAVNHL 207
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                                                                                                                                                                                                                                                                                                                                                                                                                                         Latreille P.;
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Q9DDL2
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                                                                                                                                                                                                                                                                                                                        Gaps
                                                    D'Angelo M., Vezzi A., Modesto D., Pigazzi M., Valle G., Mewes H.W., Lemcke K., Mayer K.F.X., Quetier F., Salanoubat M.; Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mosher R.H., Paradkar A.S., Anders C., Barton B., Jensen S.E., "Genes specific for the biosynthesis of clavam metabolites antipodal to clavulanic acid are clustered with the gene for clavaminate synthase 1 in Streptomyces clavuligerus.", Antimicrob. Agents Chemother. 43:1215-1224(1999).

-i. SIMILARITY: TO ALPHA/BETA HYDROLASE FOLD.

EMBL, AF124929, AAD30471.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Streptomyces clavuligerus,
Bacteria; Firmicutes; Actinobacteridae;
Actinomycetales; Streptomycineae; Streptomycetaceae; Streptomyces.
NCBI_TaxID=1901;
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                                                                                                                                                                                                                                                                             Score 32; DB 10; Length 174;
Pred. No. 27;
1; Mismatches 1; Indels
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Pred. No. 51;
0; Mismatches 1; Indels
                                                                                                                                              EU Arabidopsis sequencing project,
Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; AL137082; CAB68183.1; -.
Hypothetical protein.
                                                                                                                                                                                                                          174 AA; 19189 MW; 4C27267C5E53B4DB CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4CBC78DAD5215034 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-NOV-1999 (TrEMBLrel. 12, Created)
01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-NAR-2001 (TrEMBLrel. 16, Last annotation update)
PUTATIVE DEACETYLCEPHALOSPORIN C ACETYLTRANSFERASE.
CVM4.
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Last annotation update)
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MEDLINE=99240369; PubMed=10223939;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      328 AA; 34642 MW;
                                                                                                                                                                                                                                                                               84.2%;
71.4%;
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01,
08,
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01-NOV-1996 (TrEMBLrel. 01
01-NOV-1998 (TrEMBLrel. 08
COSMID F59G1.
                                                                                                                                                                                                                                                                                                                      Conservative
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Best Local Similarity
Matches 5; Conserv
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Best Local Similarity
Matches 5; Conserv
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                               SEQUENCE FROM N.A.
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NCBI_TaxID=3702;
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47 EWAVDHL 53
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                                                                                                                                                                                                                                                                                                                                                     2 QWAVXHL 8
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Q21051;
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RESULT
OPENSE

AC 093

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Length 353; Indels ·;

Gaps

0;

Length 806;

O21051 ID O ID O AC O DT O DT O GW C

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2 QWAVXHL 8

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2 QWAVXH 7
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                                                          Q90253
Q90253;
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                  RESULT
Q90253
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Q9R251
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                                                                                                                                                                                                                                                                                                                                                                           MEDLINE-2043737; PubMed=10884043;
MEDLINE-2043737; PubMed=10884043;
Stover C.K., Pham X.-O.T., Erwin A.L., Mizoguchi S.D., Warrener P., Hickey M.J., Brinkman F.S.L., Hufnagle W.O., Kowalik D.J., Lagrou M., Garber R.L., Goltry L., Tolentino E., Westbrock-Wadman S., Yuan Y., Brody L.L., Coulter S.N., Folger K.R., Kas A., Larbig K., Lim R.M., Smith K.A., Spencer D.H., Wong G.K.-S., Wu Z., Paulsen I.T., Reizer J., Saier M.H., Hancock R.E., W., Lory S., Olson M.V.; "Complete genome sequence of Pseudomonas aeruginosa PA01, an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
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Viruses; ssRNA positive-strand viruses, no DNA stage; Potyviridae;
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0
                                                                                                                                                                                                                                                        Pseudomonas aeruginosa.
Bacteria; Proteobacteria; gamma subdivision; Pseudomonadaceae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2; Length 95;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             opportunistic pathogen.";
Nature 406.959-964(2000).
EMBL; AE004641; AAG05531.1; -.
HYpothetical protein.
SEQUENCE 95 AA: 10821 MW; 5723E5D0CD08841F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     98 AA; 11570 MW; C4A6316685E31078 CRC64;
                                                                                                                                                      01-MAR-2001 (TrEMBLrel. 16, Created)
1-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
HYPOTHETICAL PROTEIN PA2143.
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07, Last annotation update)
                                                                                                                95 AA.
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01-NOV-1996 (TrEMBLrel. 01, Last sequence
01-AUG-1998 (TrEMBLrel. 07, Last annotatio
MRNA UNKNOWN FUNCTION (523BP) (FRAGMENT).
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Pred. No. 2
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83.3%;
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71.4%;
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Best Local Similarity 71.4.
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Best Local Similarity 83.3
Matches 5; Conservative
                                                                                                                PRELIMINARY;
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559 QWAIAHV 565
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                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=287;
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White O., Elsen J.A., Heidelberg J.F., Hickey E.K., Peterson J.D.,
White O., Elsen J.A., Heidelberg J.F., Hickey E.K., Peterson J.D.,
Dodson R.J., Haft D.H., Gwinn M.L., Nelson W.C., Richardson D.L.,
Moffat K.S., Qin H., Jiang L., Pamphile W., Crosby M., Shen M.,
Vanathevan J.J., Lam P., McDonald L., Utterback T., Zalewski C.,
Makarova K.S., Aravind L., Daly M.J., Minton K.W., Fleischmann R.D.,
Ketchum K.A., Nelson K.E., Salzberg S., Smith H.O., Venter J.C.,
                                                                                                                                                                 Bombina orientalis (Oriental fire-bellied toad).
Eukaryota; Metazoa; Coriental fire-bellied toad).
Amphibia; Batrachia; Anura; Archeobatrachia; Bombinatoridae; Bombina
                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
MEDLINE=96005965; PubMed=8631814;
Nagalla S.R., Barry B.J., Falick A.M., Gibson B.W., Taylor J.E.,
Dong J.Z., Spindel E.R.,
"There are three distinct forms of bombesin. Identification of
[Leu13]bombesin, [Phe13]bombesin, and [Ser3,Arg10,Phe13]bombesin in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Thermus/Deinococcus group; Deinococcales; Deinococcata
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 31; DB 13; Length 119;
Pred. No. 29;
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PROSITE; PS00257; BOMBESIN; 1.
CHAIN 45 59 PHE-13 BOMBESIN.
SEQUENCE 119 AA; 13888 MW; 3C9BDF367441E99A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             6EEAB3B483DC1BB7 CRC64;
                                                  01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
PHE-13 BOMBESIN PREPROHORMONE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            the frog Bombina orientalis.";
J. Biol. Chem. 271:7731-7737(1996).
EMBL; U49450; AAC59784.1;
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SEQUENCE 183 AA; 20468 MW;
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83.3%;
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TIGR; DRA0103; -.
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Matches 5; Conservative
PRELIMINARY;
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Length 183;

DB 2;

81.6%; Score 31;

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ID 09JM
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DT 01DT 01DT 01DE OLE
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RX RRT RLL DR DR KW KW KW SQ SQ

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Schulte U., Aign V., Hoheisel J., Brandt P., Fartmann B., Haltand R.. Nyakatura G., Mewes H.W., Mannhaupt G.;
Submitted (APR-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                 Bacteria; Firmicutes; Actinobacteria; Actinobacteridae;
Actinomycetales; Streptomycineae; Streptomycetaceae; Streptomyces.
                                                                                                                                                                                                                                                                                                                                                                                                                        Alexander D.C., Jensen S.E.;
"Investigation of the Streptomyces clavuligerus cephamycin C gene cluster and its regulation by the CoaR protein.",
J. Bacteriol. 180:40(6.4)9(1998).
EMBL; AF073896; AAC33491.1;
SEQUENCE 236 AA, 27584 MW; FDIEFIB650AF8070 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomyceles, Sordariales; Sordariaceae; Neurospora.
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Submitted (APR-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; AL353820; CAB88603.1;
InterPro; IRR001601;
SEQUENCE 256 AA; 27789 MW; 5251FBC58B6BDDD9 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-OCT-2000 (TIEMBLTEL 15, Created)
01-OCT-2000 (TIEMBLTEL 15, Last sequence update)
01-MAR-2001 (TIEMBLTEL 16, Last annotation update)
CONSERVED HYPOTHETICAL PROTEIN.
                                                                                                                                                                                                              Last sequence update)
Last annotation update)
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Pred. No. 64;
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Pred. No. 59;
 Mismatches
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MEDLINE=98361893; PubMed=9696752;
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01-NOV-1998 (TrEMBLrel. 08, Las
01-NOV-1998 (TrEMBLrel. 08, Las
CEPHALOSPORIN HYDROXYLASE CMCI.
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71.48;
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ilarity 71.4%;
Conservative (
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 Conservative
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Best Local Similarity
Matches 5; Conserv
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Best Local Similarity
Matches 5; Conserv
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SEQUENCE FROM N.A.
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SEQUENCE FROM N.A.
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                                                                    140 QWCVGHL 146
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                                  2 QWAVXHL 8
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Matches
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"Genomic organization of Pichia sorbitophila and Zygosaccharomyces rouxii genomes:comparison with Saccharomyces cerevisiae.";
Submitted (DEC-1998) to the EMBL/GenBank/DDBJ databases.
EMBL; X18560; CAB62288.1; -.
InterPro; IPR001601:
                                                                                                                                                                                                            01-0CT-2000 (TrEMBLrel. 15, Created)
01-0CT-2000 (TrEMBLrel. 15, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
01-RAR-2001 (TrEMBLrel. 16, Last annotation update)
01-RACTORY RECEPTOR (FRAGMENT).
01-MAR musculus domesticus (western European house mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Musinae; Musi
                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=20183981; PubMed=10706615; Rouquier S., Blancher A., Glorgi D.; Rouquier S., Blancher A., Glorgi D.; Frouguier S., Blancher A., Glorgi D.; Frouguier S., Blancher Grown gene repertoire in primates and mouse: Bridence for reduction of the functional fraction in primates."; Proc. Natl. Acad. Sci. U.S.A. 97:2870-2874(2000). EMBL; ARD43416.1; InterPro; IPR000276;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Zygosaccharomyces rouxii (Candida mogii).
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
Saccharomycetales; Saccharomycetaceae; Zygosaccharomyces.
NCBI_TaxID=4956;
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                  1; Indels
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SEQUENCE 232 AA; 26369 MW; 43CD832A6ED7F6B4 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     B2732A1870584D47 CRC64;
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01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
HYPOTHETICAL 26.4 KDA PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 31; DB 11;
Pred. No. 53;
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58;
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                                                                                                                                                                             216 AA
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0; Mismatches
 Pred. No. 45;
1; Mismatches
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Pred. No.
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ilarity 83.3%;
Conservative
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71.48;
71.48;
                  Conservative
                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRELIMINARY;
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PROSITE; PS00237; G_
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1
216
216 AA;
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Best Local Similarity
Matches 5; Conserv
Best Local Similarity
Matches 5; Conserv
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=10092;
                                                                                      49 RWAVFHL 55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRAIN=CBS 732;
                                                   2 QWAVXHL 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ||| || 82 WAVSHL 87
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SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Receptor
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09UVE4; Q9UVE4

RESULT 11

ò ద UVE4

; 0

Gaps

; 0

Indels

Length 236;

Saps

0

Length 256;

Last sequence update)
Last annotation update)

Created) PRT;

273 AA.

PRELIMINARY;

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09TJQ5;
01-MAY-2000 (TrEMBLrel. 13,
01-MAY-2000 (TrEMBLrel. 13,
01-MAR-2001 (TrEMBLrel. 16,
                                                                                                                                                                                                                                                                                                                                                                               50S RIBOSOMAL PROTEIN L2.
                                                                                                                                                                                                                                                                                                                                                                                                                                    Prototheca wickerhamii.
                                                                 90 QWVVGHL 96
                                2 QWAVXHL 8
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Q9TJQ5
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Adams W. D. Celniker S. E. Holt R. A., Evans C.A., Gocayne J. D.,

R. Adams W. D., Celniker S. E., Holt R. A., Evans C.A., Galle R. F.,

R. Adams W. D., Celniker S. E., Holt R. A., Evans C.A., Galle R. F.,

R. Adams W. D., Celniker S. E., Rithards S., Shaburner M., Henderson S. N.,

B. Sutton G.G., Wortman J. R., Yandell N. D., Zhang O., Chen L. X.,

R. Bandon R. C., Rogars Y. H. C., Blazel R. G., Champe M., Pétiffer B. D.,

R. Bandon R. C., Rogars Y. H. C., Blazel R. G., Champe M., Pétiffer B. D.,

R. Ballew R. M., Cawley Berman B. P., Bhandari D., Bolshakov S.,

R. Ballew R. M., Cawley S., Daller R., Canter A., Chandre R.

R. Buttis K.C., Busam D. A., Battler H., Cadieu E., Center A., Chandre B.

R. Buttis K. C., Busam D. A., Butler H., Cadieu E., Center A., Chandre I.,

R. Buttis K. C., Busam D. A., Butler H., Cadieu E., Center A., Chandre B.

R. Buttis K. C., Busam D. A., Butler H., Cadieu E., Center A., Chandre I.,

R. Besson K. Doup L. E., Downes M., Dugan-Rochs S., Dunkov B.C., Dun P.

B. Dutbin K. J., Evangelista C.C., Ferrac C., Ferrac J., Reliann W.,

R. Barris N. L., Harvey D., Hellman T. J., Hernandez J. R., Houck J.,

R. Harris N. L., Harvey D., Hellman T. J., Hernandez J. R., Houck J.,

R. Harris N. L., Harvey D., Kraft C., Kravitz S., Kulp D., Lai Z.,

Jalali M., Kalush F., Kappen G. H. Ke Z., Kannison J. A., Recthum K. A.,

Leiver, M. Moy M., Murphy B., Murphy L., Muzny D.M., Nelson D.L.,

R. Malson D. R., Nelson K.A., Nixon K., Nuskern D.R., Porle J. M., Nelson D.L.,

R. Melson D. R., Nelson K.A., Shappen G., Scheeler F., Shen H.,

R. Spier E., Spradling A.C., Stapleton M., Skupsk M. P., Smith T.,

R. Spier E., Spradling A.C., Stapleton M., Skupsk M. D., Smith T.,

R. Mang S. M., Woodage T., Worley K.C., Wu D., Yang S., Yao, O.,

R. Alminams S. M., Woodage T., Worley K.C., Wu D., Yang S., Wang C.,

R. Aleng X. H., Zhong W., Zhong W., Zhao W., Shu B.,

R. Aleng X. H., Shore E., Stapleton W., Staple W., Shu B.,

R
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                                                                                                                                                                                                                                                                                                                               Drosophila melanogaster (Fruit fly).

Bukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;

Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;

Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pfam; PF00047; ig; 4.
SEQUENCE 266 AA; 29823 MW; FC97694BDFF80F33 CRC64;
                                                                                                                                                                                                                                                          Last sequence update)
Last annotation update)
                                                                                                                                                                                                                               Created)
                                                                                                                                                                       PRT;
                                                                                                                                                                                                                      01-MAY-2000 (TrEMBLrel. 13, 01-MAR-2001 (TrEMBLrel. 16, 01-MAR-2001 (TrEMBLrel. 16,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HSSP; P56276; 1TLK.
FlyBase; FBgn0001257; ImpL2.
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                                                                                                                                                                    PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
162 QWCVGHL 168
                                                                                                                                                                                                                                                                                                             IMPL2 PROTEIN.
IMPL2 OR CG15009
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                                                                                                                                                                                                 Q9VZF7;
                                                                                                                                                                    Q9VZF7
                                                                                                           RESULT 14
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Gaps ;

Indels

81.6%; Score 31; DB 5; Length 266; 71.4%; Pred. No. 66;

0; Mismatches

Conservative

Query Match Best Local Similarity Matches 5; Conserv

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Š
Chloroplast.
Eukaryota; Viridiplantae; Chlorophyta; Trebouxiophyceae; Chlorellale:
Chlorellaceae; Prototheca.
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                                                                                                                                                                       Finauf U., Hachtel W.; "A 22 kb fragment of the colourless alga Prototheka wickerhamii containing atp., rpl.,rps., rrn., and trn.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  81.6%; Score 31; DB 8; Length 273; 71.4%; Pred. No. 68;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2; Indels
                                                                                                                                                                                                                                                           genes.";
Submitted (AUG-1999) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EE05656E77830BD4 CRC64;
                                                                                                                                                                                                                                                                                                                                             InterPro; IPR001412; -.
InterPro; IPR001412; -.
InterPro; IPR002121; -.
InterPro; IPR002222; -.
Pfam; PF00181; Ribosomal_L2; 1.
ProDom; PF00112; -; 1.
PROSITE; PS001678; AA_TRAA_LIGASE_I; UNKNOWN_1.
PROSITE; PS00467; RIBOSOMAL_L2; 1.
Ribosomal protein; Chloroplast.
SEQUENCE 273 AA; 29952 MW; EE0555E77830BD4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Mismatches
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                                                                                                                                                                                                                                                                                                     EMBL; AJ245645; CAB53116.1;
HSSP; P04257; 1RL2.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Local Similarity
                                                                                                                             SEQUENCE FROM N.A.
                                                                              NCBI_TaxID=3111;
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                                                                                                                                                          STRAIN=263-11;
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GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.
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OM protein - protein search, using sw model

October 25, 2001, 11:28:29; Search time 40.36 Seconds (Without alignments) 6.790 Million cell updates/sec Run on:

US-09-630-333-10 38 1 XQWAVXHL 8 Title: Perfect score: Sequence:

Scoring table:

BLOSUM62 Gapop 10.0 , Gapext 0.5

93435 segs, 34255486 residues arched:

93435 cal number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 08
Maximum Match 1008
Listing first 45 summaries

SwissProt_39:* Database : Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES	rip	ALYT_ALYOB P08944 alytes obst	BOMB_BOMVA P01296 bombina var	BOMB_BOMOR P21591 bombina ori	P08945 litoria	P42991	P08950	P38340	IML2_DROME Q09024 drosophila	SHEEP P38440	30VIN P07994	DIC	IHA_MOUSE Q04997 mus musculu		SWI6_KLULA P40418 kluyveromyc	P23260	P0947	P08989		P01294	P31886	A P43443	P47851			P29007	SOLCO	RIVU	. IUMAN) PSE P55101	(EAST	SCHPO	
SO	I	ALYT	BOMB	BOMB	LITO	BOML	RANA	YB9H_	IML2_	IHA_S	IHA_B	IHA_PIG	IHA_M	IHA_RAT	SWIE	GRP_RANRI	GRP_SCYCA	GRP_CANFA	GRP_CHICK	GRP_PIG	GRP_ALLMI	NEUB	GRP_SHEEP	GRP_RAT	GRP_H	GRP_BOMOR	AGL8	IHA_T	IHA_H	THA_H	GYP6_1	YDRE	DGSA MYCPN
	DB	;	٦	1	7	1	-	7	7	7	Η	, ,	_	П	_	Н	П	П	٦	П	-	-	_	7	Н		٦	Н	Н	П	Н	Н	_
	Query Match Length	14	1.07	119	σ	13	82	232	263	265	360	364	366	366	769	10	25	27	27	27	28	120	134	147	148	155	250	361	366	367	458	219	227
æ	Query Match	92.1	92.1	92.1	81.6	81.6	81.6		81.6	81.6	81.6	81.6	81.6	81.6	81.6	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	76.3	76.3
	Score	35	35	35	31	31	31	31	31	31	31	31	31	31	31	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	29	50
	Result No.	1	7	m	4	2	9	~	80	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	56	27	28	58	30	31	32

Q52814 rhizobium l P05374 enopus lae P29940 useudomonus P52672 thiocapsa 1 P57501 buchnera ap P586184 entamoeba h P24849 bovine poly P5109 ortis vinif P09273 varicella-2 P51092 persuia hyb P43264 those sapien			ebrata; Euteleost เกเ Discoglossidae; ปฏากา	ibian species 1 N B/RANATENSIN	rc ACID.	Length 14; ; Indels 0; (54;)	brata; Euteleosu. Bombinatoridae; Keren
3 384 1 AAPM_RHILV 3 510 1 ACHG XENLA 7 197 1 YCB7_PSEDE 7 239 1 CYSH_THRO 2 24 1 CYSH_BUCAI 7 308 1 ACPI_ENTHI 7 353 1 COA2_POVBO 7 353 1 COA2_POVBO 7 406 1 ULA3_VZVD 7 430 1 LDOX_PETHY 7 496 1 C7B1_THLAR 7 496 1 C7B1_THLAR 7 543 1 CPIB_HUMAN	ALIGNMENTS	STANDARD; PRT; 14 AA. 1. 09, Created) 1. 28, Last sequence update) 1. 37, Last annotation update)	dwife toad). ordata; Craniata; Verte ura; Archeobatrachia;	SEQUENCE. MEDINE-84131098; PubMed-6141890; MEDINE-84131098; PubMed-6141890; "Active peptides in the skins of one hundred amphibian Australia and Papua New Guinea."; Comp. Biochem. Physiol. 77C:99-108(1984). -! SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/R?	D00874; Bombesin; 1. 557; BOMBESIN; 1. 1	92.1%; Score 35; DB 1; 85.7%; Pred. No. 0.17; vative 0; Mismatches 1	ARD: PRT; 107 AA. Created) Last sequence update) Last annotation update) Last annotation vedate) ellow-bellied toad), and e-bellied toad). Chordata; Craniata; Verte Anura; Archeobatrachia; S; TISSUE-Skin; bMed=2335218;
29 76. 28 73. 28 73. 28 73. 28 73. 28 73. 28 73.	LT 1 ALXOB	7LYOB 1, 7-1988 (Re 3-1994 (Re 2-1998 (Re	ytes obstetri karyota; Meta phibia; Batra BI_TaxID=8443	QUENCE. DLINE-8413109 spamer V., Er ctive peptide stralia and P mp. Biochem.	InterPro: IPR000874; Pfam. PF02044; Bombesin; 1. PROSITE: PS00257; BOMBESIN; Bombesin family; Amidation. MOD_RES 14 14 SEQUENCE 14 AA; 1554 MW;	Match Local Simi ss 6; 2 QWAVXHI 1	LT 2 BOWDA BOMDB_BOMDA STANDARD; POL296; Ol-FEB-1996 (Rel. 01, Create Ol-FEB-1995 (Rel. 31, Last a BOMDESIN PRECURSOR. BOMDINA VARIEGURSOR. BOMDINA VARIEGURSOR. BOMDINA SARIACHAS. CARATYOLA: MCLAZCA; CARATY
33 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	RESULT ALYT AL	ID AL AC PO DT 01 DT 01 DT 15			CC Interpretation of the CC DR Pfar PROFES PROPERTY MODIFIED PROFES PROPES PROP	Ouery M Best Lo Matches Qy 2	RESULT 2 BOMB_BOMYA 1D BOMB_ AC POIZ9 DT 21-JU DT 01-FE D

Fri Oct 26 10:29:49 2001

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MEDILINE=91088602; PubMed=2263631;

Spindel E.R., Gibson B.W., Reeve J.R. Jr., Kelly M.;

Spindel E.R., Gibson B.W., Reeve J.R. Jr., Kelly M.;

"Cloning of cDNAs encoding amphibian bombesin: evidence for the relationship between bombesin and gastrin-releasing peptide.";

Proc. Natl. Acad Sci. U.S.A. 87:9813-9817(1990).

-!- FUNCTION: STIMULATES SMOOTH MUSCLE CONTRACTION. ROLE IN INDUCTION OF HYPOTHERMIA, STIMULATION OF DNA REPLICATION AND RELEASE OF MANY
                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bombina orientalis (Oriental fire-bellied toad).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Archeobatrachia; Bombinatoridae; Bombina.
NCBI_TaxID=8346;
Richter K., Egger R., Kreil G., "Molecular cloning of a cDNA encoding the bombesin precursor in skin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AMIDATION (G-56 PROVIDE AMIDE GROUP). 9692B50600FAF618 CRC64;
                                                                                                                                                                                                                                Anastasi A., Erspamer V., Bucci M.;
"Isolation and amino acid sequences of alytesin and bombesin, two
analogous active tetradecapeptides from the skin of European
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pfam: PF02044; Bombesin; 1.
PROSITE; PS00257; BOMBESIN; 1.
Bombesin family; Amidation; Cleavage on pair of basic residues;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .;
0
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Pred. No. 1.2;
); Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 POTENTIAL.
BOMBESIN.
PYRROLIDONE CARBOXYLIC ACID.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-MAY-1991 (Rel. 18, Created)
01-MAY-1991 (Rel. 18, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
                                                                                                                                             SEQUENCE OF 42-55.
SPECIES-B.variegata, and B.bombina;
MEDLINE-72163516; PubMed-4537042;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
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55
88
42
PP
79
55
12341 MW;
                                                             of Bombina variegata.";
FEBS Lett. 262:353-355(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        92.1%;
85.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; X52447; CAA36686.1; -.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PIR; A01564; BSTD.
PIR; B01564; BSTDY.
PIR; S09095; S09095.
InterPro; IPR000874; -.
                                                                                                                                                                                                                                                                                                                            discoglossid frogs."
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42
42
55
107 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    48 QWAVGHL 54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 QWAVXHL 8
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P21591;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MOD_RES
MOD_RES
SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
         TISSUE SPECIFICITY: LOCALIZED TO THE CUTANEOUS GRANULAR GLANDS IN THE SKIN AND THE BRAIN. SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=78003546; PubMed=908397,
Anastasi A., Montecucchi P.C., Angelucci F., Erspamer V., Endean K.;
"Glu(OMe)3-litorin, the second bombesin-like peptide occurring in
methanol extracts of the skin of the Australian frog Litoria durea.";
Experientia 33:1289-1289(1977).
-:- SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Litoria aurea (Australian frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi
Amphibia; Batrachia; Anura; Neobatrachia; Bufonoidea; Hylidae;
                                                                                                                                                                                                                                                                                                                                                BOMBESIN.
AMIDATION (G-59 PROVIDE AMIDE GROUP).
3A3D84EA2445A44A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Anastasi A., Erspamer V., Endean R.; "Aminoacid composition and sequence of litorin, a bombesin-like nonapeptide from the skin of the Australian leptodactylid frog-
                                                                                                                                                                                                                                                                 Pfan, PF02044; Bombesin; 1.
PROSITE; PS00257; BOMBESIN; 1.
Bombesin family; Amidation; Cleavage on pair of basic residues,
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Pred. No. 1.3;
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Pfam: PF02044; Bombesin; 1.
PROSITE; PS00257; BOMBESIN; 1.
Bombesin family; Amidation; Methylation.
MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                              1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-NOV-1988 (Rel. 09, Created)
01-FEB-1994 (Rel. 28, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
LITORIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Mismatches
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45 58 BO
58 58 AM
119 AA; 13863 MW;
GASTROINTESTINAL HORMONES
                                                                                                                                                                                                                                                                                                                                                                                                                             92.18;
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                                                                                                                                                                                                                      EMBL; M55255; AAA48551.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                              6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STANDARD;
                                                                                                                                                                                                                                                     InterPro; IPR000874; -.
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                                                                                                                                                                                                                                      PIR; A39261; A3926
                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
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P08945;
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LITO_LITAU
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us-09-630-333-10.rsp

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2 QWAVXH 7
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                                                                                               FAMILY.
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PEPTIDE
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SIGNAL
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"Six novel tachykinin- and bombesin-related peptides from the skin of the Australian frog Pseudophryne guntheri.";
Peptides 11:299-304(1990).
-I- SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
                                                                                                                                                                                                              Pseudophryne guentheri (Frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Neobatrachia; Bufonoidea; Myobatrachidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota, Metazoa, Chordata, Craniáta, Vertebrata, Euteleostomi,
Amphibia, Batrachia, Anura, Neobatrachia, Ranoidea, Ranidae, Rana.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE-88330837; PubMed-2458345;
Krane I.M., Naylor S.L., Helin-Davis D., Chin W.W., Spindel E.R.;
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                                              Score 31; DB 1; Length 9;
Pred. No. 9.3e+04;
0; Mismatches 1; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 1; Length 13;
METHYLATION (IN A VARIANT).
AMIDATION.
D7CCC1E862CDC366 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                            AMIDATION.
D6DE0D24BD98C366 CRC64;
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01-NOV-1988 (Rel. 09, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
                                                                                                                                                                        01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
01-NOV-1995 (Rel. 32, Last annotation update)
BOMBESIN-LIKE PEPTIDE L (FG-L).
                                                                                                                                                       13 AA.
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MEDLINE=90287814; PubMed=2356157;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               81.6%;
83.3%;
                                               81.6%;
83.3%;
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Matches 5; Conservative
                                                                  Conservative
                                                                                                                                                      STANDARD;
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9
1103
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                                                                                                                                                                                                                                                                                                                                                                  PIR; A60409; A60409.
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                                                       Local Similarity
9 AA;
                                                                                                                                                                                                                                                     NCBI_TaxID=30349;
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6 QWAVGH 11
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2 QWAVGH 7
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                                                                                                                                                                                                                                            Pseudophryne.
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P08950;
                                                                                                                                                      BOML_PSEGU
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MOD_RES
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                                               Query Match
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                                                                                                                                   RESULT 5
BOML_PSEGU
                                                         Best Loca
Matches
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"Molecular cloning of cDNAs encoding the human bombesin-like puptide neuromedin B. Chromosomal localization and comparison to cDNAs encoding its amphibian homolog ranatensin.";
J. Biol. Chem. 263:13317-13323(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Doignon F., Biteau N., Crouzet M., Aigle M.;
"The complete sequence of a 19,482 bp segment located on the right
arm of chromosome II from Saccharomyces cerevisiae.";
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Saccharomycetales; Saccharomycetaceae; Saccharomyces.
NCBI_TaxID=4932;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AMIDATION (G-59 PROVIDE AMIDE GRUII) 09194FFD0E7436DE CRC64;
                                                                                                                                                                                                                               "Isolation and structure of a new vasoactive polypeptide.";
Fed. Proc. 29:282-282(1970).
-!- SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pfam; PF02044; Bombesin; 1.
PROSITE; PS00257; BOMBESIN; 1.
Bombesin family; Amidation; Cleavage on pair of basic residues;
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01-0CT-1994 (Rel. 30, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
HYPOTHETICAL 26.1 KDA PROTEIN IN POP4-SHMI INTERGENIC REGION.
YBR261C OR YBR1729.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 POTENTIAL.
                                                                                                                                                                                                    Nakajima T., Tanimura T., Pisano J.J.;
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58
58
9159 MW;
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InterPro; IPR000874
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Matches 5; Conserv
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28
48
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82 AA;
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51 QWAVGH 56
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ElyBase; FBgnuvuze...
InterPro; IPR03006; -.
Pfam; PF00047; 1g; 2.
Inmunoglobulin domain; Cell adhesion; Signal..
I 23 POTENTIAL.
Aca NEURAL/ECTODERMAL DEVELOPMENT FACTOR IMP-
                                                                                                                                                                                                                                                                                                                                                   Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
NCBI_TaxID=7227;
                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIMARILY EXPRESSED.
DEVELOPMENTAL STAGE: FIRST EXPRESSED AT THE CELLULAR BLASTODERM STAGE AND CONTINUES TO BE EXPRESSED THROUGH SUBSEQUENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IN
BE
                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
STRAIN=CANTON-S; TISSUE=Embryo;
MEDLINE-94139565; PubMed-8306886;
Garbe J.C., Yang E., Firistrom J.W.;
"IMP-L2: an essential secreted immunoglobulin family member implicated in neural and ectodermal development in Drosophila.";
Development 119:1237-1250(1993).
-1- FUNCTION: ESSENTIAL DEVELOPMENTAL ROLE DURING EMBRYOGENESIS,
PARTICULAR THE NORMAL DEVELOPMENT OF THE NERVOUS SYSTEM. MAY INVOLVED IN SOME ASPECT OF CELL ADHESION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISSUE SPECIFICITY: DETECTED IN SEVERAL SITES INCLUDING THE VENTRAL NEUROECTODERM, THE TRACHEAL PITS, THE PHARYNX AND OESOPHAGUS, AND SPECIFIC NEURONAL CELL BODIES, WHERE IT IS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INDUCTION: BY 20-HYDROXYECDYSONE. SIMILARITY: CONTAINS 2 IMMUNOGLOBULIN-LIKE C2-TYPE DOMAINS.
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0
                                                                                                                                                                                                                                                                                                                                Drosophila melanogaster (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
                                                                                                          81.6%; Score 31; DB 1; Length 232; llarity 71.4%; Pred. No. 16; Conservative 0; Mismatches 2; Indels
                                                                        66699F37B0013088 CRC64;
                                                                                                                                                                                                                                                                    01-FEB-1995 (Rel. 31, Created)
01-FEB-1995 (Rel. 31, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
NEURAL/ECTODERMAL DEVELOPMENT FACTOR IMP-L2 PRECURSOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LZ.
IG-LIKE C2-TYPE DOMAIN.
IG-LIKE C2-TYPE DOMAIN.
                                               SGD; SO000465; YBR261C.
Hypothetical protein.
SEQUENCE 232 AA; 26068 MW;
            EMBL; L23066; AAB59251.1; -. HSSP; P56276; ITLK.
                                                                                                                                                                                                                                                STANDARD;
                                                                                                             Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                   139 QWCVGHL 145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DEVELOPMENT.
                                                                                                                                                            2 QWAVXHL 8
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Eukaryota, Merazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Caprinae; Ovis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . . ) (POTENTIAL). C.
N-LINKED (GLCNAC. . . ) (POTENTIAL).
M; D880E9AB156B6656 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sadanandan S.L., Jeyaseelan K.;
Submitted (FEB-1994) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: INIBIN IS A GONADAL GLYCOPEPTIDE THAT INHIBITS THE SECRETION OF FOLLITROPIN BY THE PITUTARY GLAND.
-!- SUBGNIT: DIMERIC, LINKED BY ONE OR MORE DISULFIDE BONDS.
INHIBIN A IS A DIMER OF ALPHA AND BETA-A.
INHIBIN B IS A DIMER OF ALPHA AND BETA-B.
-!- SIMILARITY: BELONGS TO THE TGF-BETA FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
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PROSITE; PS00250; TGF_BETA_1; 1.
Follitropin inhibitor; Contraceptive; Hormone; Glycoprotein
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                                                                                                                           Length 263;
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                                                               44AADB1B22DD1804 CRC64;
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Pred. No. 19;
                                                                                                                                ;;
                                                                                                                                                                                                                                                                                                                                                                                                   P3844v;
01-07-1994 (Rel. 30, Last sequence update)
01-07-1994 (Rel. 30, Last sequence update)
01-07T-1994 (Rel. 30, Last annotation update)
BY SIMILARITY.

BY SIMILARITY.

V -> I.
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18;
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                                                                                                                                Score 31;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                    PRT;
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                                                               29421 MW;
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71.48;
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                                                                                                                                81.6%;
71.4%;
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226 2
45 1
167 1
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Best Local Similarity
Matches 5; Conserv
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Best Local Similarity
Matches 5; Conserv
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Indels

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Mismatches

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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
TISSUB-FOLLICULAR fluid;
MEDLINE-86205842; PubMed-3458167;
Forage R.G., Ring J.M., Brown R.W., McInerney B.V., Cobon G.S.,
Gregson R.P., Robertson D.M., Morgan F.J., Hearn M.T.W., Findlay J.K.,
Wettenhall R.E.H., Burger H.G., de Kretser D.M.;
"Cloning and sequence analysis of cDNA species coding for the two
subunits of inhibin from bovine follicular fluid.";
Proc. Natl. Acad. Sci. U.S.A. 83:3091-3095(1986).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRINTS; PR00669; INTELINA.
PROSTE; PS00250; TGF_BETA_1; 1.
FOllitropin inhibitor; Contraceptive; Hormone; Glycoprotein; Signal.
SIGNAL 1 17 POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Thompson D.A., Cronin C.N., Martin F., Genomic cloning and sequence analyses of the bovine alpha-, beta A-and beta B-inhibin/activin genes. Identification of transcription factor AP-2-binding sites in the 5'-flanking regions by DNase I
                                                                                                                                                                                                                                             Bos taurus (Bovine).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           factor a.

footprinting ";

Eur. J. Blochem. 226:751-764(1994).

eur. J. Blochem. 226:751-764(1994).

eur. J. Blochem. 226:751-764(1994).

elevention: Inhibit is A GONADAL GLYCOPEPTIDE THAT INHIBITS THE SECRETION OF FOLLITROPIN BY THE PITUITARY GLAND.

elevention: SECRETION OF FOLLITRED BY ONE OR MORE DISULFIDE BONDS.

INHIBIN A IS A DIMER OF ALPHA AND BETA-A.

INHIBIN B IS A DIMER OF ALPHA AND BETA-B.

elevention: Inhibit is BELONGS TO THE TGF-BETA FAMILY.

elevention: It is produced through a colling the second colling is a produced through a colling is a colling in the second colling in the second colling is a colling in the second colling is a colling in the second colling is a colling in the second colling in the second colling is a colling in the second colling in the second colling is a colling in the second colling in the second colling is a colling in the second colling in the second colling is a colling in the second colling is a colling in the second colling in t
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N-LINKED (GLCNAC. .) (POTENTIAL).
N-LINKED (GLCNAC. .) (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FBBF385DD1EFEF46 CRC64;
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                                                                                                  01-AUG-1988 (Rel. 08, Created)
01-AUG-1988 (Rel. 08, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
INHIBIN ALPHA CHAIN PRECURSOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BY SIMILARITY.
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                                                  360 AA
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                                                  PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISSUE-Liver;
MEDLINE-95112839; PubMed-7813465;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         38809 MW;
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InterPro; IPR002405; -.
Pfam; PF00019; TGF-beta; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE OF 1-87 FROM N.A.
                                               STANDARD;
                                                                                                                                                                                                                                                                                                                              Bovidae; Bovinae; Bos.
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                                            IHA_BOVIN
P07994;
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CARBOHYD
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                    IHA_BOVIN
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DB 1; Length 360; 25;

Score 31; Pred. No.

81.6%; 71.4%;

Query Match Best Local Similarity

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                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A., AND SEQUENCE OF 231-256.
TISSUE-Ovarian follicular fluid;
MEDLINE-86092207; PubMed-247121;
Mason A.J., Hayflick J.S., Ling N., Esch F., Ueno N., Ying S.-Y.,
Guillemin R., Niall H., Seeburg P.H.,
"Complementary DNA sequences of ovarian follicular fluid inhibin show
precursor structure and homology with transforming growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIMTS; PRO0669; INHIBINA, PROSITE; PS00250; TGE_BETA_1; 1. PROSITE; PS00250; TGE_BETA_1; 1. Follitropin inhibitor; Contraceptive; Hormone; Glycoprotein; Signal. SIGNAL 1 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BY SIMILARITY.
BY SIMILARITY.
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INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. ..) (POTENTIAL).
R -> H (IN REF. 2).
A -> T (IN REF. 2).
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sus scrofa (Pig).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
MEDLINE=86287350; PubMed=3016724;
Mayo K.E., Cerelli G.M., Spiess J., Rivier J., Rosenfeld M.G.,
Evans R.M., Vale W.;
Tinhibin A-subunit cDNAs from porcine ovary and human placenta.";
Proc. Natl. Acad. Sci. U.S.A. 83:5849-5853(1986).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INHIBIN ALPHA CHAIN.
                                                                                                                     01-NOV-1986 (Rel. 03, Created)
01-APR-1988 (Rel. 07, Last sequence update)
01-EBB-1996 (Rel. 33, Last annotation update)
INHIBIN ALPHA CHAIN PRECURSOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         or send an email to license@isb-sib.ch).
                                                                                                PRT;
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                                                                                                STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PIR; A01392; WFPGA.
PIR; A25947; A25947.
InterPro; IPR001839; -.
InterPro; IPR002405; -.
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169 RWAVLHL 175
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2 QWAVXHL 8
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CARBOHYD
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P04087;
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RESULT 12 IHA_MOUSE

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MEDLINE=90331931. Pubmed=2484214;

RECH F.S., Shimasaki S., Cooksey K., Mercado M., Mason A.J.,

RECH F.S., Shimasaki S., Cooksey K., Mercado M., Mason A.J.,

A Ying S.Y., Ueno N., Ling N.;

"Complementary deoxyribonucleic acid (cDNA) cloning and DNA sequence
analysis of rat ovarian inhibins.";

Mol. Endocrinol. 1:388-396(1987).

C. 1- FUNCTION: INHIBIN IS A GONADAL GLYCOPEPTIDE THAT INHIBITS 1..

SECRETION OF FOLLITROPIN BY THE PITUITARY GLAND. ON THE OTHIN. ACTIVATES THE SECRETION OF FOLLITROPIN.

C. 1- SUBUNIT: DIMERIC, LINKED BY ONE OR MORE DISULFIDE BONDS.

INHIBIN A DIMER OF ALPHA AND BETA-A.

INHIBIN B IS A DIMER OF ALPHA AND BETA-B.

C. 1- TISSUE SPECIFICITY: ALPHA- AND BETA-B.

PREDOMINANT FORMS FOUND IN RAT TESTIS.

C. 1- SIMILARITY: BELONGS TO THE TGF-BETA FAMILX.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Ratius.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Feng 2.-M., Li Y.-P., Chen C.-L.C.; "Analysis of the 5'-flanking regions of rat inhibin alpha- and beta-B-subunit genes suggests two different regulatory mechanisms."; Mol. Endocrinol. 3:1914-1925(1989).
                                       Contraceptive, Hormone, Glycoprotein, Sharm.
                                                                                                                 BY SIMILARITY.

BY SIMILARITY.

BY SIMILARITY.

INTERCHAIN (BY SIMILARITY).

N-LINKED (GLCNAC. ..) (POTENTIAL).

N-LINKED (GLCNAC. ..) (POTENTIAL).

A -> R (IN REF. 2.)

Y -> G (IN REF. 2 AND 3).

T -> R (IN REF. 2 AND 3).

T -> R (IN REF. 2 AND 3).

T -> R (IN REF. 2 AND 3).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=91042598; PubMed=3153478; Modruff T.K., Meunier H., Jones P.B.C., Hsueh A.J.W., Mayo h.E. met inhibit modecular cloning of alpha- and beta-subunit complementary deoxyribonucleic acids and expression in the ovary Mol. Endocrinol. 1:561-568(1987).
                                                                                                 INHIBIN ALPHA CHAIN
                                                                                                                                                                                                                                                                                                                                                             Score 31; DB 1;
Pred. No. 25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-AUG-1990 (Rel. 15, Created)
01-AUG-1990 (Rel. 15, Last sequence update)
01-NOV-1995 (Rel. 32, Last annotation update)
INHIBIN ALPHA CHAIN PRECURSOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       366 AA
                                                                                                                                                                                                                                                                                                                                                                                                     1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=90190649; PubMed=2628729;
                PROSITE; PS00250; TGF_BETA_1; 1. Follitropin inhibitor; Contracep
                                                                                                                                                                                                                                                                                                       39536 MW;
                                                                                                                                                                                                                                                                                                                                                               81.6%;
                                                                                                                                                                                                                                                                                                                                                                                    71.48;
PRINTS; PR00669; INHIBINA.
PROSITE; PS00250; TGF_BET?
                                                                                                                                                                                                                                                                                                                                                                                                         5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STANDARD;
                                                                                                                                                                                                                                                                                                       366 AA;
                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     [2]
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   176 RWAVLHL 182
                                                                              21
234
263
292
296
327
147
165
                                                                                                                                                                                                                                                                                                                                                                                                                                              2 QWAVXHL 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   rissue=Liver;
                                                                                                                                                             DISULFID
                                                                                                                                        DISULFID
                                                                                                                        DISULFID
                                                                                                                                                                                                      CARBOHYD
                                                                                                                                                                                                                         CARBOHYD
                                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                              CONFLICT
                                                                                                                                                                                                                                                              CONFLICT
                                                                                                                                                                                                                                                                                     CONFLICT
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                                                                                PROPEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         P17490
                                                              SIGNAL
                                                                                                 CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               13
                                                                                                                                                                                                                                                                                                                                                                                                       Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT
  δλ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Differentiation 44:62-68(1990).

-! FUNCTION: INHIBIN IS A GONADAL GLYCOPEPTIDE THAT INHIBITS THE SECRETION OF FOLLITROPIN BY THE PITUITARY GLAND. ON THE OTHER HAND ACTIVIN ACTIVATES THE SECRETION OF FOLLITROPIN.

-!- SUBUNIT: DIMERIC, LINKED BY ONE OR MORE DISULFIDE BONDS.

INHIBIN A IS A DIMER OF ALPHA AND BETA-B.

-!- SIMILARITY: BELONGS TO THE TGF-BETA FAMILY.
                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ES
                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A. MEDLINE-92337610; PubMed-1632772; U.G.W. Hsueh A.J.W.; "Nous A.J.W.; "Characterization of mouse inhibin alpha gene and its promoter."; Biochem. Biophys. Res. Commun. 186:293-300(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRAIN-SWISS WEBSTER;
WEDLINE-91071331; PubMed-2253839;
Tone S., Katob Y., Fujimoto H., Togashi S., Yanazawa M., Kato Y.,
Higashinakagawa T.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Albano P.M., Groome N., Smith J.C.; Albano P.M., Groome N., Smith J.C.; Activins are expressed in preimplantation mouse embryos and in and EC cells and are regulated on their differentiation."; Development 11:711-731(1993).
                                                                                                 ;
0
                                                            Length 364;
                                                                                                 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Expression of inhibin alpha-subunit gene during mouse
BB595B9B7958A168 CRC64;
                                                            ij
                                                                                                                                                                                                                                                                                                                    01-FEB-1994 (Rel. 28, Created)
01-FEB-1994 (Rel. 28, Last sequence update)
01-0CT-1996 (Rel. 34, Last annotation update)
                                                                                                                                                                                                                                                                                 366 AA
                                                         Score 31; DB
Pred. No. 25;
                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                 PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
MEDLINE=93321614; PubMed=8330535;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; M95525; AAA39314.1; -.
EMBL; M95526; AAA39314.1; JOINED.
39160 MW;
                                                                                                                                                                                                                                                                                                                                                                                  INHIBIN ALPHA CHAIN PRECURSOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; X69618; CAA49324.1; -.
                                                         81.6%;
71.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE OF 49-366 FROM N.A.
                                     Query Match
Best Local Similarity 71.4°,
".hos 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pfam; PF00019; TGF-beta; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; X55957; CAA39424.1;
PIR; S31439; S31439.
PIR; JC1106; JC1106.
                                                                                                                                                                                                                                                                                 STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MGD; MGI:96569; Inha.
InterPro; IPR001839; -.
InterPro; IPR002405; -.
                                                                                                                                                                                                                                                                                                                                                                                                                         musculus (Mouse).
364 AA;
                                                                                                                                                               NCBI_TaxID=10090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gametogenesis.";
                                                                                                                                        2 QWAVXHL 8
                                                                                                                                                                                                                                                                                 IHA_MOUSE
SEQUENCE
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Sdps

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Length 366; 1; Indels

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                      InterPro; IPR001839; ...
InterPro; IPR001405; ...
Pfam; PF00019; TGF-beta; 1.
PRINTS; PR00669; INHIBINA.
PROSITE; PS00250; TGF_BETA_1; 1.
Follitropin inhibitor; Contraceptive; Hormone; Glycoprotein; Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FUNCTION: PART OF A COMPLEX INVOLVED IN CELL-CYCLE-DEPENDENT TRANSCRIPTION. SW14 AND SW16 ARE REQUIRED FOR FORMATION OF THE CELL-CYCLE BOX FACTOR-DNA COMPLEX. THE REPEATED ELEMENT IN THE UPSTREAM REGION OF HO (5'-CACGAAAA-3') IS CALLED THE CELL CYCLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -!- SUBBNIT: MBF CONTAINS SWI6 AND MBP1; SBF CONTAINS SWI6 AND SWI4-!- SIMILARITY: STRONG, TO S.POMBE CDC10.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-FEB-1995 (Rel. 31, Created)
01-FEB-1995 (Rel. 31, Last sequence update)
01-OCT-2000 (Rel. 40, Last annotation update)
REGULATORY PROTEIN SWIG (CELL-CYCLE BOX FACTOR, CHAIN SWIG) (TRANSACTING ACTIVATOR OF HO ENDONUCLEASE GENE) (MBF SUBUNIT P90).
                                                                                                                                                                                                                                                                                                                                                     INHIBIN ALPHA CHAIN.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POTENTIAL).
N-LINKED (GLCNAC. . .) (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE-93383264; PubMed-8372350;
Koch C., Moll T., Neuberg M., Ahorn H., Nasmyth K.;
As role for the transcription factors Mbpl and Swi4 in progression
from Gl to S phase.";
Science 261:1551-1557(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Kluyveromyces lactis (Yeast).
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 1; Length 366; 25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Saccharomycetales; Saccharomycetaceae; Kluyveromyces NCBI_TaxID=28985;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            769 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 31;
Pred. No. 2
                                                                                                                                                                                                                                                                                                                          POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
                                                                                                                           EMBL; M32755; AAA41437.1; -.
EMBL; M32754; AAA41437.1; JOINED.
EMBL; M36453; AAA41435.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    39496 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match

Best Local Similarity 71.4%;
Matches 5; Conservative 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STANDARD;
                                                                                                                                                                                                                                                                                                                                       233
366
328
363
365
                                                                                                                                                                           PIR; A40905; A40905.
PIR; A41398; A41398.
PIR; A40056; A40056.
                                                                                                                                                                                                                                                                                                                                                                                                                                   147
269
366 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 QWAVXHL 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (CCB).
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P40418;
                                                                                                                                                                                                                                                                                                                                                                                      DISULFID
                                                                                                                                                                                                                                                                                                                                                                       DISULFID
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                                                                                                                                                                                                                                                                                                                                                                                                                                      CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE
                                                                                                                                                                                                                                                                                                                                       PROPEP
CHAIN
                                                                                                                                                                                                                                                                                                                        SIGNAL
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SWI6_KLULA
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                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=91315477; PubMed=1859413;
Conlon J.M., O'Harte F., Vaudry H.;
Conlon J.M., O'Harte F., Vaudry H.;
"Primary structures of the bombesin-like neuropeptides in frog brain show that bombesin is not the amphibian gastrin-releasing peptide.";
Blochem. Blophys. Res. Commun. 178:526-530(1991).
-!- SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENGIN
                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Euteleostomi;
Ranidae; R. 1.
                                                                                                                                                                                                                                                                                               ;
0
                                                                                                  PIR; S36657; S36657.
InterPro; IPR00210; -
Pfam; PF00023; ank; 2.
PROSITE; PS50088; ANK_REPEAT; 2.
PROSITE; PS50297; ANK_REP_REGION; 2.
Transcription requiation; DNA-binding; ANK repeat; Repeat.
REPEAT 286 315 ANK 1.
                                                                                                                                                                                                                                                              Score 31; DB 1; Length 769;
Pred. No. 51;
1; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1; Indels
                                                                                                                                                                                                                      E3A5328B4DA084FB CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AMIDATION. F81FBAE862CDC371 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Rana ridibunda (Laughing frog) (Marsh frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Amphibia; Batrachia; Anura; Neobatrachia; Ranoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 30; DB 1;
Pred. No. 1.3;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-NoV-1991 (Rel. 20, Created)
01-NOV-1991 (Rel. 20, Last sequence update)
01-APR-1993 (Rel. 25, Last annotation update)
NEUROMEDIN C.
                                                                                                                                                                                                                                                                                                                                                                                                                              10 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Search completed: October 25, 2001, 11:28:30 Job time: 478 sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro; IPR000874; -. Pfam; PF02044; Bombesin; 1. PROSITE; PS00257; BOMBESIN; 1.
                                                                                                                                                                                                                      86669 MW;
                                                                                                                                                                                                                                                                81.6%;
57.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                78.9%;
83.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10 AA; 1094 MW;
                                                                                     EMBL; X74292; CAA52345.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bombesin family; Amidation.
MOD_RES 10 10
                                                                                                                                                                                                                                                 Ouery Match
Best Local Similarity 57.1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PIR; PQ0177; PQ0177.
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Best Local Similarity
5, Conserv?
                                                                                                                                                                                                                      769 AA;
                                                                                                                                                                                                                                                                                                                                                      409 QWVITHL 415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=8406;
                                                                                                                                                                                                                                                                                                                            2 QWAVXHL 8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TISSUE-Brain;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3 WAVXHL
                                                                                                                                                                                                                                                                                                                                                                                                                              GRP_RANRI
P23260;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FAMILY
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SEQUENCE
                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEOUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 15
GRP_RANRI
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(without alignments)
7.992 Million cell updates/sec
                                                                                                           October 25, 2001, 11:25:22; Search time 76.25 Seconds
GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                        OM protein - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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38
1 XQWAVXHL 8
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Sequence:
                                                                                                                                                                                                                                                                       Scoring table:
                                                                                                             Run on:
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219241 tal number of hits satisfying chosen parameters:

219241 seqs, 76174552 residues

Searched:

Minimum DB seq length: 0 Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database :

PIR_68:* 1: pir1:* 2: pir2:* 3: pir3:* 4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

		ф				
Result No.	Score	Query	Length	DB	QI	Description
				1		
-	35	92.1	14	Т	BSTD	bombesin - fire-be
2	35	92.1	107	7	BSTDY	DI
m	35	92.1	119	7	A39261	
4	32	84.2	174	7	T45665	
2	32	84.2	353	7	T34312	
9	31	81.6	6	~	S07204	litorin I - Austra
7	31	-	13	~	A60409	bombesin-like pept
80	31		82	~	B28945	ranatensin precurs
6	31	81.6	95	7	H83378	hypothetical prote
10	31	81.6	183	7	A75605	_
11	31	•	232	7	S32963	_
12	31		256	~	T48787	
13	31	81.6	309	7	S41427	Ψ
14	31		325	7	F82558	lipopolysaccharide
15	31	•	357	7	T17027	MYB-related transc
16	31	٠	360	Н	A25732	inhibin alpha chai
17	31	81.6	364	٦	WFPGA	
18	31	•	366	П	JC1106	inhibin alpha chai
19	31	•	366	П	A40056	inhibin alpha chai
20	31	81.6	703	7	T48559	probable receptor-
21	31	ä	169	7	S36657	SWI6 protein - yea
22	30	78.9	10	~	PQ0177	neuromedin C - lau
23	30	8	10	~	A60647	neuromedin C - bov
24	30	ω.	25	7	806263	gastrin-releasing
25	30	78.9	27	_	RHPGA	gastrin-releasing
56	30	78.9	27	~	RHGPGA	gastrin-releasing
27	30	œ.	27	Н	RHCHA	gastrin-releasing
28	30	78.9	120	7	A47201	bombesinlike pepti
29	30	78.9	134	7	147010	gastrin-releasing

gastrii	gastrin i leasing	gastri: releasing	qastrin releasing	hypotherical profe	MADS be: protein	conserved hypother	hypothetical prote	conserved hypothici	conserved hypothet	inhibin alpha chai	hypothetical prote	qlucan endo-1,3-be	GTPase-activating	cytochrome P450 (E	hypothetical profe
A26182	A40922	B26182	A42437	876918	T07902	A69060	B82631	H82541	н83298	A24248	T43049	T50645	S56816	T10896	S76521
מ ר	7	٦	N	7	7	~	7	~	7	П	~	7	7	~	-
138	14 /	148	155	170	250	252	283	311	318	366	375	453	458	505	691
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30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30

ALIGNMENTS

RESULT

DOMINESIN - IITE-DELLIEG COAD C;Species: Bombina bombina (fire-bellied toad) C;Date: 13-Jul-1981 #sequence_revision 13-Jul-1981 #text_change 20 % C;Accession: A01564	R;Anastasi, A.; Erspamer, V.; Bucci, M. Arch. Blochem. Blophys. 148, 443-446, 1972 A.Title: Isolation and amino acid sequences of alytesin and bombesin, two analon. 1: a A;Reference number: A01564; MUID:72163316 A;Accession: A01564	A;Molecule type: protein A;Residues: 1-14 <ana>. C;Superfamily: gastrin-releasing peptide C;Superfamily: gastrin-releasing peptide C;Keywords: amidated carboxyl end; cutaneous gland; hormone; neuropeptide; pyroglutam F;1/Modified site: pyrrolidone carboxylic acid (Gln) #status expermental F;14/Modified site: amidated carboxyl end (Met) #status experimental</ana>

Query Match Best Local Similarity	Sim	ilarity	92.1%;	SCC	Score 35; DB 1 Pred. No. 0.33;	DB 1; 0.33;	. Fer	Length 14;			
atches	.; 0	Conservative	ive		Mismatches	hes	.,	Indels	.,	Gaps	

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Length 14;			
Query Match 92.1%; Score 35; DB 1; Length 14; Best Local Similarity 85.7%; Pred. No. 0.33;	0; Mismatches		
92.18;	vative		
Match Local Similarity	les 6; Conser	2 QWAVXHL 8	7 QWAVGHL 13
Quer, Best	Matc	٥y	Dp

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RESULT 2	BSTDY	bombesin precursor - yellow-bellied toad	C; Species: Bombina variegata (yellow-bellied toad	0 Date 10 01 Date 10001 Harmon 10001 Date 1000
RES	BST	pou	C;S	•

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C,Accession: A66409
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(R,Simmaco, M.; Severini, C.; De Biase, D.; Barra, D.; Bossa, F.; Roberts, J. P. Peptides 11, 299-304, 1990
(A,Attle: Six novel tachykinin- and bombesin-related peptides from the skin of the A; Reference number: A60409; MUID:90287814
(A,Accession: A60409
(A,ACCESSION)
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C;Date: 12-Feb-1993 #sequence_revision 12-Mar-1993 #text_change 18-Aug-2000
C;Accession: S07204
R;Anastasi, A.; Erspamer, V.; Endean, R.
Experientia 31, 510-511, 1975
A;Title: Aminoacid composition and sequence of litorin, a bombesin like nonapept and A;Reference number: S07204; MUID:75187011
                                                                                                                                                                                                                                                                                                                                                                                                              A; Cross-references: EMBL:U53332; PIDN:AAC71158.1; GSPDB:GN00020; CESP:F59G1.4 A; Experimental source: strain Bristol N2; clone F59G1
                                                            hypothetical protein F59G1.4 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 29-Oct-1999 #sequence_revision 29-Oct-1999 #text_change 21-Jan-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            bombesin-like peptide L. - frog (Pseudophryne guentheri)
C;Species: Pseudophryne guentheri
C;Date: 30-Jan-1993 #sequence_revision 30-Jan-1993 #text_change 18-Aug-22000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Molecule type: protein
A;Residues: 1-9 <ANA>
C;Superfamily: qastrin-releasing peptide
C;Keywords: amidated carboxyl end; neuropeptide; pyroglutamic acid
E;J/Modified site: pyrrolidone carboxylic acid (Gln) #status experiment:
F;J/Modified site: amidated carboxyl end (Met) #status experiment:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A:Map position: 2
A:Introns: 23/1; 47/2; 83/3; 114/3; 151/1; 187/2; 229/3; 257/3; 316
C;Superfamily: Caenorhabditis elegans hypothetical protein F59G1.4
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                                                                                                                                                                                                                                   submitted to the EMBL Data Library, April 1996
A; Description: The sequence of C. elegans cosmid F59G1.
A; Reference number: 221504
A; Accession: T34312
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83.3%; Pred. No. 2.2e+05;
tive 0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                       A; Status: preliminary; translated from GB/EMBL/DDBJ
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Pred. No. 33;
1; Mismatches
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ilarity 71.4%;
Conservative
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Matches 5; Conserv
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Best Local Similarity
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201 EWAVNHL 207
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R; Latreille, P.
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SubAngelo, M.; Vezzi, A.; Modesto, D.; Pigazzi, M.; Valle, G.; Mewes, H.W.; Lemcke, K.; Submitted to the Protein Sequence Database, January 2000
A; Reference number: Z33011
A; Accession: T45665
A; Status: preliminary
A; Molecule type: DNA
A; Residues: 1-174 < DANY
A; Residues: 1-174 < DANY
A; Experimental source: cultivar Columbia; BAC clone F14P22
C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Cession: A39261
Freshindel, E.R.; Gibson, B.W.; Reeve Jr., J.R.; Kelly, M.
Froc. Natl. Acad. Sci. US.A. 87, 9813-9817, 1990
A;Title: Cloning of cDNAs encoding amphibian bombesin: evidence for the relationship bet A;Reference number: A39261; MUID:91088602
A;Accession: A39261
A;Status: preliminary
A;Accession: A39261
A;Residues: 1-119 <SPID
A;Cross-references: GBNAS5255; NID:q211016; PIDN:AAA48551.1; PID:q211017
C;Superfamily: ranatensin
C;Keywords: neuropeptide
F;42-55/Product: bombesin #status experimental <MAT>
F;56-107/Domain: carboxyl-terminal propebtide #status predicted <CPT>
F;27/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status experimen F;55/Modified site: amidated carboxyl end (Met) (amide in mature form from following gly
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C;Species: Arabidopsis thaliana (mouse-ear cress)
Date: 04-Feb-2000 #sequence_revision 04-Feb-2000 #text_change 04-Feb-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         bombesin precursor - Bombina orientalis
C;Species: Bombina orientalis
ate: 18-Oct-1991 #sequence_revision 18-Oct-1991 #text_change 24-Sep-1999
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17;
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Pred. No.
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85.7%;
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ilarity 71.4%;
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Best Local Similarity 85.,
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Best Local Similarity 85.7
Matches 6; Conservative
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A; Introns: 90/1; 126/3; 166/2
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EWAVDHL 53
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51 QWAVGHL 57
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                                               hypothetical protein - Deinococcus radiodurans (strain R1)
(Species: Deinococcus radiodurans
C;Species: Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 28 .01 .000
C;Accession: A75605
KWhite, 0; Eisen, J.A.; Heidelberg, J.F.; Hickey, E.K.; Peterson, J.D.; Dodson, M.; Shen, M.; Vamathevan, J.J.; Lam, P.; McDonald, L.; Utterback T.; Zalewski. S.; Smith, H.O.; Venter, J.C.; Fraser, C.M.
Science 286, 1571-1577, 1999
A;Title: Genome sequence of the radioresistant bacterium Deinococcus radiodurans A;Reference number: A7550; MUID: 20036896
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  hypothetical protein YBR261c - yeast (Saccharomyces cerevisiae)
N;Alternate names: hypothetical protein YBR1729
C;Species: Saccharomyces cerevisiae
C;Date: 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_change 28-Jul :000
C;Accession: S32963; S46142
R;Doignon, F.; Biteau, N.; Crouzet, M.; Aigle, M.
Yeast 9, 189-199, 1993
A;Title: The complete sequence of a 19,482 bp segment located on :| i.tht a A;Reference number: S29348; MUID:93220397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Molecule type: DNA
A; Residues: 1-232 < DDA
A; Residues: 1-232 < DDA
A; Residues: 1-232 < DDA
A; Cross-references: EMBL:X70529; NID:g1907246; PIDN:CAA49926.1; PID:q 296.560
R; Aigle, M.; Baclet, M.C.; Barthe, C.; Biteau, N.; Crouzet, M.; Doign : F.
a; Reference number: S45940
A; Reference number: S45940
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A;Cross-references: GB:AE001862; GB:AE001825; NID:g6460468; PIDN:AAF!
A;Experimental source: strain R1
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C;Superfamily: Deinococcus radiodurans hypothetical protein DRAOlu3
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C;Superfamily: Neurospora crassa hypothetical protein 13E11.350
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Pred. No. 35;
0; Mismatches
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ed. No. 28;
Mismatches
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Pred. No. 2
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71.48;
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71.4%;
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Best Local Similarity
'-has 5; Conserve
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Matches 5; Conserv
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A; Status: preliminary
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QWCVGHL 145
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49 RWAVFHL
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                                                                                                                                                                                                                                                                                                                       A; Molecule type:
                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Gene: DRA0103
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K.; Lim,
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A;Residues: 1-95 <STO>
A;Cross-references: GB:AE004641; GB:AE004091; NID:g9948150; PIDN:AAG05531.1; GSPDB:GN001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Title: Complete genome sequence of Pseudomonas aeruginosa PA01, an opportunistic pathd
A;Reference number: A82950; MUID:20437337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Krane, I.M.; Naylor, S.L.; Helin-Davis, D.; Chin, W.W.; Spindel, E.R. J. Biol. Chem. 263, 13317-13323, 1988
A; Title: Molecular cloning of cDNAs encoding the human bombesin-like peptide neuromedin A; Reference number: A92667; MUID:88330837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Cross-references: GB:M21552; GB:J03948; NID:g213693; PIDN:AAA49533.1; PID:g213694
C;Superfamily: ranatensin
C;Keywords: neuropeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C. Accession: H83378

tover, C.K.; Pham, X.Q.; Erwin, A.L.; Mizoguchi, S.D.; Warrener, P.; Hickey, An, S.; Yuan, Y.; Brody, L.L.; Coulter, S.N.; Folger, K.R.; Kas, A.; Larbig, J. Lory, S.; Olson, M.V.
Nature 406, 959-964, 2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           hypothetical protein PA2143 [imported] - Pseudomonas aeruginosa (strain PA01)
C; Superfamily: unassigned animal peptides C; Keywords: amidated carboxyl end; hormone; neuropeptide; pyroglutamic acid F:1/Modified site: pyrrolidone carboxylic acid (Gln) *status experimental F:13/Modified site: amidated carboxyl end (Met) *status experimental
                                                                                                                                                                                                                                                                                                                                                                                      ranatensin precursor - northern leopard frog
C;Species: Rana pipiens (northern leopard frog)
Date: 30-Jun-1989 #sequence_revision 30-Jun-1989 #text_change 24-Sep-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C.Species: Pseudomonas aeruginosa
C.Date: 15-Sep-2000 #sequence_revision 15-Sep-2000 #text_change 31-Dec-2000
                                                                                                                                                                                       Gaps
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Pred. No. 15;
); Mismatches
                                                                                                                                           DB 2;
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Pred. No. 2;
0; Mismatches
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Pred. No. 13;
0; Mismatches
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C, Genetics:
A, Gene: PA2143
                                                                                                                                        81.6%;
83.3%;
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71.4%;
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Matches 5, Conservative
                                                                                                                                                                                       Conservative
                                                                                                                                      Query Match
Best Local Similarity
Matches 5; Conserv
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Best Local Similarity
Matches 5; Conserv
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A; Residues: 1-82 <KRA>
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51 QWAVGH 56
                                                                                                                                                                                                                                                                          6 QWAVGH 11
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Search completed: October 25, 2001, 11:25:22 Job time: 335 sec
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Best Local Similarity 71.4
Matches 5; Conservative
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Matches 5; Conserv
                                                      A; Residues: 1-325 <SIM>
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C;Species: Neurospora crassa
C;Date: 05-May-2000 #sequence_revision 05-May-2000 #text_change 28-Jul-2000
C;Date: 05-May-2000 #sequence_revision 05-May-2000 #text_change 28-Jul-2000
C;Accession: T4887
Schulte, U.; Aign, V.; Hoheisel, J.; Brandt, P.; Fartmann, B.; Holland, R.; Nyakatura, submitted to the Protein Sequence Database, April 2000
A;Reference number: 224541
A;Reference number: 224541
A;Accession: T48787
A;Molecule type: DNA
A;Molecule type: DNA
A;Residues: 1-256 <SCH>
A;Molecule type: DNA
A;Residues: 1-256 <SCH>
A;Reperimental source: cosmid contig 13E11; strain 74
C;Genetics:
A;Map position: 2
A;Map position: 2
A;Musposition: 2
A;Musp
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C;Species: Xylella fastidiosa
C;Species: Xylella fastidiosa
C;Accession: F82558
R;anonymous, The Xylella fastidiosa Consortium of the Organization for Nucleotide Sequen Astritle: The genome sequence of the plant pathogen Xylella fastidiosa.
A;Title: The genome sequence of the plant pathogen Xylella fastidiosa.
A;Reference number: A82515; MUID:20365717
A;Accession: F82558
A;Status: preliminary
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S41427
cysteine proteinase (EC 3.4.22.-) CP1 precursor - Trichomonas vaginalis
C;Species: Trichomonas vaginalis
C;Species: Trichomonas vaginalis
C;Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 04-Feb-2000
C;Accession: 541427
R;Mallinson, D.J.
Submitted to the EMBL Data Library, January 1994
A;Reference numbar: S41425
A;Reference numbar: S41427
A;Molecule type: mRNA
A;Residues: 1-309 cAML.
A;Residues: 1-309 cAML.
A;Experimental source: G3
C;Genetics:
C;Superfamily: papain
C;Superfamily: papain
C;Superfamily: papain
C;Superfamily: saquence #status predicted <SIG>F:1-89/Domain: signal sequence #status predicted <MAT>
T,254,274/Active site: Cys, H1s, Asn #status predicted
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Pred. No. 39;
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0; Mismatches
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est Local Similarity 71.4%;
atches 5; Conservative
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Best Local Similarity 83.3
Matches 5; Conservative
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A; Cross-references: GB:AE004052; GB:AE003849; NID:g9107617; PIDN:AAFFLOCK 1, USE. N. A; Cross-references: GB:AE004052; GB:AE003849; NID:g9107617; PIDN:AAFFLOCK 1, USE. N. A; Experimental source: strain 9a5c  
A; Experimental source: strain 9a5c  
B; Experimental source: strain P.C.; Arruda, P.C.; Arruda, P.C.; Call. Call.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     R;Waites, R.; Selvadurai, H.R.; Oliver, I.R.; Hudson, A. Cell 93, 779-789, 1998
A;Title: The PHNTMASTICA gene encodes a MYB transcription factor inversed in growth a A;Reference number: Z18662; MUID:98292176
A;Accession: T17027
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2
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C;Superfamily: unassigned myb DNA-binding repeat proteins; myb DNA-binding repeat
C;Keywords: transcription factor
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A;Molecule type: mRNA
A;Residues: 1-37 <MN1-
A;Cross-references: EMBL:AJ005586; NID:93183616; PIDN:CAA06612.1; PID:93183617
A;Experimental source: cultivar JI.98; inflorescence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MXB-related transcription factor - garden snapdragon
C;Species: Antirrhinum majus (garden snapdragon)
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 21-Jul-2000
C;Accession: T17027
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Pred. No. 49;
0; Mismatches
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54;
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71.48;
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71.48;
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Sequence 12, Appl
Patent No. 5217955
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Sequence 9, Appli
Patent No. 5217955
Patent No. 5217955
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(without alignments)
2.567 Million cell updates/sec
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/cgn2_6/ptodata/2/jaa/6A_COMB.pep:*
/cgn2_6/ptodata/2/jaa/6B_COMB.pep:*
/cgn2_6/ptodata/2/jaa/FOTUS_COMB.pep:*
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GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
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5217955-14
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US-08-168-390-11
US-08-337-127-9
5217955-32
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US-07-619-7478-9
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US-07-619-747B-26
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                                                                                                                                                                                                           197339 seqs, 20590346 residues
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                                                                       2001, 11:23:56
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Maximum Match 100%
Listing first 45 summaries

    protein search, using sw model

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Gapop 10.0 , Gapext 0.5
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length: 2000000000
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38
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Match Length
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28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMEN

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Sequence 12, Application US/08168390
Patent No. 5620955
GENERAL INFORMATION:
APPLICANT: Knight, Martha
APPLICANT: Takahashi, Kazayuki
APPLICANT: Takahashi, Kazayuki
APPLICANT: Chandrasekhar, Bhaskar
TITLE OF INVENTION: Bombesin/Gastrin Releasing Peptide Antayonists
NUMBER OF SEQUENCES: 16
CORRESPONDENCE ADDRESS:
ADDRESSEE: Sterne, Kessler, Goldstein & Fox
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                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/168,390
                                                                                                                                                                                                                  E: Sterne, Kessler, Goldstein & 1100 New York Avenue, Suite 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0871.0040001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: GOLGStein, JOTGE A.
REGISTRATION NUMBER: 29,021
REFERENCE/POCKET NUMBER: 0871
TELECOMMUNICATION INFORMATION:
TELEFAX: (202) 371-2600
TELEX: 24636 SSK
INFORMATION FOR SEQ ID NO: 12:
SEQUENCE CHRARATICS:
LENCTH: 8 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME/KEY: Modified-site LOCATION: 1
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OTHER INFORMATION:
OTHER INFORMATION:
FEATURE:
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US-08-168-390-12
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5217955-14
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                                                                                                                                                       Gaps
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5217955-35
; PATCHAIL 2
FALCANT: aBOGDEN, ARTHUR E.; MOREAU, JACQUES-PIERRE
TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG
F BOWBESIN, GRP, LITORIN OR NEUROMEDIN
NUMBER OF SEQUENCES: 42
; CURRENT APPLICATION DAPA:
FILING DATE: 09-MAY-1990
; PRIOR APPLICATION DATA:
APPLICATION NUMBER: 440,039
; FILING DATE: 21-NOY-1989
; FILING DATE: 15-SEP-1989
; SEQ ID NO; 35
; SEQ ID NO; 35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PAPELICANT: aBOGDEN, ARTHUR E.; MOREAU, JACQUES-PIERRE
APPLICANT: aBOGDEN, ARTHUR E.; MOREAU, JACQUES-PIERRE
TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG
FINESIN, GRP, LITORIN OR NEUROMEDIN
NUMBER OF SEQUENCES: 42
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/520,225
FILING DATE: 09-MAY-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 440,039
FILING DATE: 21-N0V-1989
APPLICATION NUMBER: 440,125
FILING DATE: 15-SEP-1989
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                               OTHER INFORMATION: /note= "The carboxy-terminal OTHER INFORMATION: residue comprises an ethyl ester." US-08-168-390-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1; Indels
                                                                                                                  94.7%; Score 36; DB 1; Length 8; 85.7%; Pred. No. 1.5e+05;
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Best Local Similarity 85.7%; Pred. No. 1.5e+05;
Matches 6; Conservative 0; Mismatches 1;
                                                                                                                                                     0; Mismatches
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NAME/KEY: Modified-site
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Best Local Similarity 85./۰
است و 6; Conservative
                                                                                                                  Query Match
Best Local Similarity 85.7
Matches 6; Conservative
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5217955-36
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5217955-36
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Gaps
RESULT 4
5217955-13
; PALGALT: aBOGDEN, ARTHUR E.; MOREAU, JACOUES-PIERRE
APPLICANT: aBOGDEN, TREATMENT OF CANCER WITH PEPTIDE ANALOG
; OF BOMBESIN, GRP, LITORIN OR NEUROMEDIN
NUMBER OF SEQUENCES: J.
CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/520,225
FILING DATE: 09-MAY-1990
PRIOR APPLICATION DATA:

APPLICATION NUMBER: 400,039
FILING DATE: 21-NOV-1989

FILING DATE: 15-SEP-1989
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$217955-15
; Patent No. 5217955
; Patent No. 5217955
; APPLICANT: aBOGDEN, ARTHUR E.; MOREAU, JACQUES-PIERRE
; TILE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG
; OF BOMBESIN, GRP, LITORIN OR NEUROMEDIN
; NUMBER OF SEQUENCES: 42
; CURRENT APPLICATION DATA:
; APPLICATION UNBER: US/08/520,225
; FILING DATE: 09-MAY-1990
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 440,039
; FILING DATE: 21-NOV-1989
; APPLICATION NUMBER: 408,125
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5217955-14
Patent No. 5217955
Patent No. 5217955
TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG
OF BOMBESIN, GRY, LITORIN OR NEUROMEDIN
NUMBER OF SEQUENCES: 42
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/520,225
FILING DATE: US/MAX-1990
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 36; DB 6; Length 9; Pred. No. 1.5e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 36; DB 6; Pred. No. 1.5e+05;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: 440,039
FILING DATE: 21-NOV-1989
APPLICATION NUMBER: 408,125
FILING DATE: 15-SEP-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    94.78;
85.78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    6; Conservative
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Best Local Similarity 85.7
Matches 6; Conservative
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Patent No. 5620955
GENERAL INFORMATION:
APPLICANT: Knight, Martha
APPLICANT: Takahashi, Kazayuki
APPLICANT: Takahashi, Kazayuki
APPLICANT: Chandrasekhar, Bhaskar
TITLE OF INVENTION: Bombesin/Gastrin Releasing Peptide Antagonists
NUMBER OF SEQUENCES:
ADDRESSEE: Sterne, Kessler, Goldstein & Fox
                                                                                                                                                                                                                                                             RESULT 7
5217955-22
; Patent No. 5217955
; CURENT PERTIDENT OF CANCER WITH PEPTIDE ANALOG
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/520,225
; FILING DATE: 09-MAY-1990
; RAPLICATION NUMBER: 440,039
; FILING DATE: 21-NOV-1989
; APPLICATION NUMBER: 408,125
; FILING DATE: 15-SEP-1989
                                                                                                                                                   ;
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                                                                                                             94.7%; Score 36; DB 6; Length 9; 85.7%; Pred. No. 1.5e+05;
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
COPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION UNMBER: US/08/168,390
FILING DATE: Herewith
CLASSIFICATION: 530
ATTONNEY/AGENT INFORMATION:
NAME: GOLDStein, Jorge A.
REGISTRATION NUMBER: 29,021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             THEST: LOUNTESS:
STREET: 1100 New York Avenue, Suite 600 CITY: Washington STATE: DC COUNTRY: USA
                                                                                                                                                   0; Mismatches
Query Match
Best Local Similarity 85.7
Matches 6; Conservative
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Best Local Similarity 85.7
Matches 6; Conservative
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2 QWAVAHL 8
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2 QWAVAHL 8
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Gaps
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OTHER INFORMATION: comprises one of several chemical effactors:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 8;
                                                                                                                                                                                                                                                                                                                                                                       /note= "The carboxy-terminal residue comprises an ethyl ester."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COUNTRY: U.S.A.
ZIP: 0110-2804
COMPUTER READBLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: IBM PS/2 Model 502 or 555X
OPERATING SYSTEM: IBM P.C. DOS (Version 3.30)
SOFTWARE: WordPerfect (Version 5.0)
CURRENT APPLICATION DATA:
FILING DATE:
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 92.1%; Score 35; DB 1; I
85.7%; Pred. No. 1.5e+05;
tive 0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
APPLICANT: COy, David H.
APPLICANT: Moreau, Jacques-Pierre
APPLICANT: Min, Sun H.
TITLE OF INVENTION: OCTAPEPTIDE BOMBESIN
TITLE OF INVENTION: AMALOGS
NUMBER OF SEQUENCES: 11
CORRESPONDENCE ADDRESS:
REFERENCE/DOCKET NUMBER: 0871.0040001
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               UMBEK:
07/07/89
....p: 07/317,941
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/779,039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE: 03/02/89
APPLICATION NUMBER: 07/282,328
FILING DATE: 12/09/88
APPLICATION NUMBER: 07/257,998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              07/502,438
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FILING DATE: 08/21/89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-08-337-127-9
; Sequence 9, Application US/08337127
; Patent No. 5877277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Richardson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE: Fish & Richardson STREET: 225 Franklin Street
                                     TELEPHONE: (202) 371-2600
TELEFAX: (202) 371-2540
TELEX: 248636 SSK
INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
LENGTH: 8 amino acids
TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                           NAME/KEY: Modified-site LOCATION: 1
                                                                                                                                                                                                                                                                                                                               NAME/KEY: Modified-site
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Best Local Similarity 85.7
Matches 6; Conservative
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APPLICATION NUMBER: 07
FILING DATE: 03/30/90
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APPLICATION NUMBER:
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APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                   LOCATION: 8
CTHER INFORMATION:
CTHER INFORMATION:
US-08-168-390-11
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2 QWAVGHL 8
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; Patent No. 5217955
; APPLICANT: aBOGDEN, ARTHUR E.; MOREAU, JACQUES-PIERRE
; TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG
; OR BABBESIN. GRV, LITORIN OR NEUROMEDIN
; UNMBER OF SEQUENCES: 4 2
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: U990
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 400,339
; FILING DATE: 21-NOV-1989
; FILING DATE: 12-SEP-1989
; FILING DATE: 15-SEP-1989
                                                                                                                                                                                                                                                                                                                                                                                                                  Length 8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 1, Application US/07619747B
Patent No. 5244883
GENERAL INFORMATION:
APPLICANT: Gai, Ren Zhi
APPLICANT: Schally, Andrew V.,
TITLE OF INVENTION: No. 5244883apeptide Bombesin
TITLE OF INVENTION: Antagonists
NUMBER OF SEQUENCES: 40
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                             Score 35; DB 6; I
Pred. No. 1.5e+05;
0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: 360K Diskette
COMPUTER: 18M PC
CORPUTER: 18M PC
COPERATING SYSTEM: DOS 5.0
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: NO. 5244883e
FILING DATE: NA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER:
FILING DATE:
ATTORNEY AGENT INFORMATION:
NAME: Behr, Omri M.
REGISTRATION NUMBER: 22,940
REFERENCE/DOCKET NUMBER: SHAL3.0-011
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE: Dr. Andrew V. Schally STREET: 5025 Kawanne Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                  92.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEPHONE: (908)494-5240
TELEFAX: 1-908-494-0428
TELEFX: 511642 BEPATEDIN
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 92.1'
Best Local Similarity 85.7'
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: AMINO
STRANDEDNESS: Unknown
TOPOLOGY: Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CITY: Metairie
STATE: Louisiana
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US-07-619-747B-1
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5217955-32
; PATENT 10
5217955-32
; PATENT ARTHUR E.; MOREAU, JACQUES-PIERRE
APPLICANT: aBGGDEN, ARTHUR E.; MOREAU, JACQUES-PIERRE
TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG
; OF BOMBERIN, GRP, LITORIN OR NEUROMEDIN
NUMBER OF SEQUENCES: 42
CURRENT APPLICATION DATA:
APPLICATION DATA: US/08/520,225
FILING DATE: 09-MAx-1990
; RILING DATE: 10-NOV-1989
; FILING DATE: 11-NOV-1989
; FILING DATE: 11-NOV-1989
; FILING DATE: 15-SEP-1989
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             92.1%; Score 35; DB 2; Length 8; 85.7%; Pred. No. 1.5e+05; 1ve 0; Mismatches 1; Indels
                                                           APPLICATION NUMBER: 07/207,759
FILING DATE: 06/16/88
FILING DATE: 06/16/88
FILING DATE: 06/16/88
APPLICATION NUMBER: 07/204,171
FILING DATE: 06/08/88
APPLICATION NUMBER: 07/173,311
FILING DATE: 09/24/87
APPLICATION NUMBER: 07/173,311
FILING DATE: 09/24/87
APPLICATION NUMBER: 07/100,571
FILING DATE: 09/24/87
APPLICATION NUMBER: 07/100,571
FILING DATE: 09/24/87
APPLICATION NUMBER: 30,162
RESIERENCE/DOCKET NUMBER: 00537/0090D
TELEPHONE: (617) 542-5070
TELEPHONE: (617) 542-8906
TELEPEX: 200154
INFORMATION FOR SEQ ID NO: 9:
SEQUENCE CHARACTERISTICS:
                                           APPLICATION NUMBER: 07/248,771 FILING DATE: 09/23/88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 85...
5. Conservative
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Best Local Similarity 85.7'
Matches 6; Conservative
                           10/14/88
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CTHER INFORMATION:
CTHER INFORMATION:
CTHER INFORMATION:
US-08-337-127-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: amino acid STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TOPOLOGY: linear
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2 QWAVGHL 8
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5217955-32
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ò g MOLECULE TYPE: peptide

RESULT 11 5217955-34

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APPLICANT: Cai, Ren Zhi
APPLICANT: Cai, Ren Zhi
PAPLICANT: Schally, Andrew V.,
TITLE OF INVENTION: No. 5244083apeptide Bombesin
TITLE OF INVENTION: Antagonists
NUMBER OF SEQUENCES: 40
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Andrew V. Schally
STREET: 5025 Kawanne Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Position 1 is 5F-D-Trp
Position 8 is a reduced
isostere of named aminoacid
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85.7%; Pred. No. 1.5e+05;
iive 0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: WP 5.1

CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: No. 5244883e
FILING DATE: NO. MARE: BAPLICATION NUMBER: ATTORNEY DATE: NAME: BAPLICATION NUMBER: REGISTRATION NUMBER: 22,940

REGISTRATION NUMBER: 22,940
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US-07-619-747B-5
; Sequence 5, Application US/07619747B
; Patent No. 5244883
; GENERAL INFORMATION:
APPLICANT: Cai, Ren Zhi
; APPLICANT: Schally, Andrew V.,
                                                                                                             ; Sequence 4, Application US/07619747B
; Patent No. 5244883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE/DOCKET NUMBER: SHAL
TELECOMMUICATION INFORMATION:
TELEPHONE: (908) 494 -5240
TELEFAX: 1-908-494-0428
TELEFAX: 511642 BEPATEDIN
INFORMATION FOR SEQ. ID NO: 4:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                      MEDIUM TYPE: 360K Diskette
COMPUTER: IBM PC
OOPERATING SYSTEM: DOS 5.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
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                                                                                                                                                                                                                                                                                                                                                                                      ZIP: 70002
COMPUTER READABLE FORM:
MEDIUM TYPE: 360K Di.
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OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                  STATE: Louisiana
COUNTRY: USA
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Best Local Similarity
Matches 6; Conserva
                                                                                                                                                       GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                 CITY: Metairie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AMINO
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2 QWAVGHL 8
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                                                                                                           92.1%; Score 35; DB 1; Length 9; 85.7%; Pred. No. 1.5e+05; live 0; Mismatches 1; Indels
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                                                                                                                                                                                                                                                                                                                         Sequence 2, Application US/07619747B
Petent No. 5244883
GENERAL INFORMATION:
APPLICANT: Cai, Ren Zhi
APPLICANT: Schally, Andrew V.,
TITLE OF INVENTION: No. 5244883apeptide Bombesin
TITLE OF INVENTION: Antagonists
NUMBER OF SEQUENCES:
ADDRESSEE: Dr. Andrew V. Schally
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Position 1 is D-Trp
Position 8 is a reduced
isostere of named aminoacid
                Position 8 is a reduced isostere of named aminoacid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ZIP: 70002
COMPUTER READABLE FORM:
MEDIUM TYPE: 360K DISKETTE
COMPUTER: 1BM PC
OPERATING SYSTEM: DOS 5.0
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
CLASSIFFICATION NUMBER: NO. 5244883e
FILING DATE: NA
APPLICATION NUMBER: NO. 5244883e
FILING DATE: NA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTORNEY AGENT INFORMATION:
NAME: Behr, Omri M.
REGISTATION NUMBER: 22,940
REFERENCE/DOCKET NUMBER: SHAL3.0-011
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STREET: 5025 Kawanne Avenue CITY: Metairie STATE: Louisiana COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     92.1%;
85.7%;
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TELEFAX: 1-908-494-0428
TELEX: 511642 BEPATEDIN
INFORMATION FOR SEO ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                         Query Match
Best Local Similarity 85.7.
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Best Local Similarity 85.7
Matches 6; Conservative
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STRANDEDNESS: Unknown
TOPOLOGY: Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MOLECULE TYPE: peptide
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) OTHER INFORMATION:
) OTHER INFORMATION:
US-07-619-747B-2
                OTHER INFORMATION: OTHER INFORMATION:
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2 QWAVGHL 8
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                                                      US-07-619-747B-1
FEATURE
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Gaps

0

1; Indels Length 9;

2 QWAVXHL 8

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TITLE OF INVENTION: No. 5244883apeptide Bombesin
TITLE OF INVENTION: Antagonists
NUMBER OF SEQUENCES: 40
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Andrew V. Schally
STREET: 5025 Kawanne Avenue
CITY: Metairie
STRATE: Louisiana
COUNTRY: Louisiana
COUNTRY READABLE FORM:
MEDIUM TYPE: 360K Diskette
COMPUTER READABLE FORM:
MEDIUM TYPE: 360K Diskette
COMPUTER: 1BM PC
COMPUTER: 1BM PS: 1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: No. 5244883e
FILING DATE: NA
FILING DATE: NA
APPLICATION NUMBER: SHAL3.0-011
FILING DATE: NA
APPLICATION NUMBER: SHAL3.0-011
TELECOMMUNICATION INFORMATION:
TOPOCLOGY:
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Position 8 is a reduced
isostere of named aminoacid
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FEATURE:
OTHER INFORMATION:
OTHER INFORMATION: Posi
OTHER INFORMATION: Posi
CTHER INFORMATION: 1sos
US-07-619-7478-5
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92.1%; Score 35; DB 1; Length 9; 85.7%; Pred. No. 1.5e+05; live 0; Mismatches 1; Indels Query Match
Best Local Similarity 85.7 atches 6; Conservative õ

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0; Gaps

2 QWAVXHL 8

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Search completed: October 25, 2001, 11:23:57 Job time: 270 sec

Peptid analogue Reptid malogue Bomb.

Deptid malogue Peptid malogue Peptid military fill Peptid Malogue Bombesin/gastiin-re

analoque analoque

Peptide . Peptide a

Linear litorin and Linear Litorin and Peptide analoque # Bombesin antaqonis

Bombes n antagonis

Non-ryviic analoge

Bombesin recention Bombesin artaqonis Bombesin peptide a Amino acid sequenc Amino acid sequenc Bombesin analoque Non-cy canaloque

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Bombesin antagonist; malignant disease; therapy; gastric acid secretion.
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AAR28459
AAW64910
                                                                                                                                           AAW50941
AAW92740
AAB08302
AAB08308
AAB72406
AAR04526
AAR04527
AAR04529
AAR04530
AAR04530
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AAR11521
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AAR11529
AAR12033
        AAR14865
AAR14866
AAR14867
                                AAR14873
AAR40903
AAW51195
AAW51201
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AAR04531
AAR11224
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AAR14877
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                                                                                                                                                                                                                                                                                                                                                                                                            Sequence of new neuromedin C deriv.
                                                                                                                                                                                                                                                                                                                                                  AAP91147 standard; protein; 7 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                            /label=OTHER
/note="Ac-D-Gln"
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/note="D-Ala"
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 88EP-0310094
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Misc-difference
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22-DEC-1990
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AAP91147;
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Bombesin/gastrin r
Bombesin analog pe
Linear Litorin ana
Linear litorin ana
Bombesin analogue
Bombesin analogue
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                                                       Search time 129.78 Seconds (without alignments)
3.737 Million cell updates/sec
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SIDSB/gcgdata/geneseq/geneseqp/AA1981.DAT:*

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SIDSB/gcgdata/geneseq/geneseqp/AA1985.DAT:*

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Compugen Ltd.
                                                                                                                                                                 hits satisfying chosen parameters:
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       GenCore version
Copyright (c) 1993 - 2000
                                                       October 25, 2001, 11:22:46
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Maximum Match 100%
Listing first 45 summaries
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AAR20585
AAR32998
AAW94610
AAP20294
AAR11241
AAR11242
AAR29155
AAR29157
AAW69335
                                        sw model
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Gapop 10.0 , Gapext 0.5
                                       protein search, using
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length: 2000000000
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38
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Post-processing:

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Scoring table:

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Bombesin receptor Sequence of Bombes

Result No.

88GB-0013355

06-JUN-1988;

Non-cy, c analog.
Non-cyclic and logu.
Non-cyclic and logu.
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Non-cyclic and logu.
Peptide bombesin a
Exampl. of peptide
Example of peptide
Example of peptide

Example of peptide Example of peptide Example of peptide Bombesin antaroni. Peptide analogue #

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                  7 AA;
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5-200 mg/dose.
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Modified-site
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1 qwavahl
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                                                                                                                                                                                                                                                             Synthetic.
                   Sequence
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                                                                                                       It is a potent bombesin antagonist. It may be used for the treatment of e.g. malignant disease, conditions associated with the over-prodn. of bombesin and conditions associated with failure of normal physiological control of the regulation of gastric acid secretion.
                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The peptide is modified at the N-terminal with a lauryl, palmitoyl or esp. an octanoyl gp. The Leu at position 7 may be absent. The C-terminal (Leu or His) is amidated. The peptides and derived salts can be used to treat small cell lung carcinoma, prostatic carcinoma, tumour tissue growth, peptide ulcers, cancer and associated conditions, and to effect antagonism of bombesin/gastrin releasing peptide. Dosage is 0.2-250 mg/kg daily in 1-4 doses, at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New peptide bombesin-GRP antagonists - used as antitumour agents to treat e.g. leukaemia, small cell lung and prostatic carcinoma and to inhibit gastric acid secretion.
                                     New Neuromedin C polypeptide derivs. - are potent bombesin antagonist used for treating malignant disease and conditions associated with gastrin or gastric acid
                                                                                                                                                                                                      ö
                                                                                                                                                                                  Score 36; DB 10; Length 7; Pred. No. 3.4e+05; 1; Mismatches 1; Indels
 Hayward CF;
                                                                                      Disclosure; Page 929; 49pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                                                         AAR20585 standard; Peptide; 7 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 7; Page 12; 14pp; English.
 Dutta AS,
                                                                                                                                                                                                      ;
                                                                                                                                                                                                                                                                                                                                                                                                                          /note= "D-Ala"
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                                                                                                                                                                                    94.7%;
85.7%;
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                                                                                                                                                                                                                                                                                                                                                                    Antitumour agent; leukaemia
                                                                                                                                                                                                                                                                                                                                                 Antagonist of bombesin/GRP.
                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                   uery Match
st Local Similarity 85.7
atches 6; Conservative
 Cotton R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 1992-034251/05.
                  WPI; 1989-139341/19
                                                                                                                                                       7 AA;
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| qwavahl
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  Camble R,
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                                                                     secretion
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /label= OTHER
/note= "N-alpha-acetyl-Gln, N-alpha-octyl-Gln,
N-alpha-lauryl-Gln or N-alpha-palmityl-Gln"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New bombesin peptide agonists and antagonists - stimulate or inhibit digestion, increase susceptibility of tumours to chemotherapeutic agents, treat gastric ulcers and tumours en
                             Length 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Intracellular signal; inhibition; gastrointestinal tract;
litorin; Gastrin Releasing Peptide; GRP.
                          Score 36; DB 13;
Pred. No. 3.4e+05;
); Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 [D-Ala11]-bombesin(7-13)amide derivs.
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                             94.78;
85.78;
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Ouery Match
Best Local Similarity 85.7-
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The peptide may be preceded by a formyl, acetyl, propionyl, acrylyl or benzoyl group at its C-terminal. The peptide may be used for reducing the body temp. of a mammal, as well as for inducing analgesia. It produces hypothermia when injected i.c., but not when given i.v. or s.c. See also AAP20291-3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Octa:peptide bombesin analogues - having hypothermic and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 36; DB 3;
Pred. No. 3.4e+05;
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                                                                                                                           AAP20294 standard; peptide; 8 AA.
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                                                                                                                                                                                                                                                      Bombesin; hypothermic; analgesic
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85.7%;
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                                                                                                                                                                                                                       Bombesin analog peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Brown MR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 1982-48049E/23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8 AA;
                                                                                                                                                                                                                                                                                                                                 Misc-difference
                                                                                                                                                                                                                                                                                                                                                                Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   analgesic props.
                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ||||| ||
| qwavahl 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 QWAVXHL 8
                 2 QWAVXHL
                                     |||||||||
1 qwavahl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          03-OCT-1980;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         03-OCT-1980;
                                                                                                                                                                                                                                                                                                                                                                                                            US4331661-A
                                                                                                                                                                                                                                                                                                                                                                                                                                            25-MAY-1982
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Marki WE,
                                                                                                                                                                                                                                                                                     Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAR11241;
                                                                                                                                                          AAP20294;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
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AAR11241
                                                                                                             AAP20294
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The present sequence represents a bombesin/gastrin releasing peptide. type inhibitor peptide. The peptide may be used as an antimitotic and antisecretory peptide. It can control growth of small cell lung and prostatic carcinomas, and it can also inhibit gastric secretions which are causative and symptomatic of peptic ulcers. Administration may be oral but is preferably subcutaneous, intravenous, intranscular or intraperitoneal, by depot injection, by implant preparation or by application to the mucous membranes (e.g. of the nose or bronchial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                  Gaps
                                                                                                                                                                                                                                                                                                Bombesin; gastrin releasing peptide; GRP; inhibitor; antagonist; small cell lung carcinoma; tumour; frog; antimitotic; antisecretory;
                                                                                                                                                                                                                                                                                                                                                                                                                                         /note= "optionally modified by octanoyl, lauroyl or
palmitoyl"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New peptide antagonists of bombesin or gastrin releasing peptide are useful as antimitotic and antisecretory agents in treating, e.g., small cell lung carcinoma or peptic ulcers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;
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                                ó
                                                                                                                                                                                                                                                                 Bombesin/gastrin releasing peptide type inhibitor peptide #2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 36; DB 20; Length 7; Pred. No. 3.4e+05; 0; Mismatches 1; Indels
Length 7;
                              Indels
Score 36; DB 13;
Pred. No. 3.4e+05;
0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        7
/note= "amidated"
                                                                                                                                                                      AAW94610 standard; peptide; 7 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 5; Column 14; 9pp; English.
94.78;
85.78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              91US-0735402.
90US-0558031.
94US-0278692.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  96US-0960130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               95US-0447528
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                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (RICH ) MERRELL PHARM INC.
                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 1999-141255/12.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
Matches 6; Conserv
Query Match
Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  tubes) by aerosol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              7 AA;
                                                                                                                                                                                                                                                                                                                                                              Synthetic.
Bombina bombina
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Krstenansky JL;
                                                            2 QWAVXHL 8
                                                                            ||||| ||
| qwavah| 7
                                                                                                                                                                                                                                                                                                                                                                                                             Key
Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Modified-site
                                                                                                                                                                                                                                                                                                                                 peptic ulcer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  23-FEB-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               24-JUL-1991;
26-JUL-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21-JUL-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             23-FEB-1996;
                                                                                                                                                                                                                                    27-APR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US5834433-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10-NOV-1998
                                                                                                                                                                                                     AAW94610;
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                                                                                                                                                         AAW94610
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Gaps

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1; Indels

Length 8;

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These peptides are specifically claimed examples of a generic formula. The C-terminal amino acid (Met) of the naturally occurring peptide has been converted to a methylester. The peptide is useful for treating benign or malignant tissue proliferation, artherosclerosis, gastrointestinal disorders and diabetes. They act as competitive inhibitors of natural peptides, since they bind to the cell receptors but have no biological
                                                                                                                                                                                                                                                                                                                                                                     New linear peptide analogues of bombesin - modified to eliminate biological activity while retaining receptor affinity, for treating cancer, diabetes, etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The analogue may also be of a naturally occurring peptide terminating at the C-terminus with a Met residue, such as the 10 amino acid C-terminal region of mammalian GRP or amphibian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 36; DB 12; Length 8;
Pred. No. 3.4e+05;
); Mismatches 1; Indels
                       1...1
/label=D-Phe, pentafluoro-Phe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note= "D-form residue"
                                                          o..o
/label= N-methyl-D-Ala
                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 20+21; Page 54; 58pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Hepatoma; liver cancer; antagonist
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note= "NMe-D-Ala"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAR29155 standard; peptide; 8 AA.
                                                                                                                                                                                                                                                     (TULA ) ADMIN TULANE EDUCATIONAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                94.7%;
nilarity 85.7%;
Conservative 0
                                                                                                                                                                                                                                                                                                       Coy DH, Moreau JP, Kim SH;
                                                                                                                                                                                                     89US-0397169.
                                                                                                                                                                     90WO-US04646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           16-APR-1993 (first entry)
                                                                                                                                                                                                                                                                        (BIOM-) BIOMEASURE INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  See also AAR11239-242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bombesin analogue (5)
                                                                                                                                                                                                                                                                                                                                         WPI; 1991-087241/12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 QWAVXHL 8
   Key
Modified-site
                                                Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Modified-site
                                                                                                                                                                     17-AUG-1990;
                                                                                                                                                                                                     21-AUG-1989;
30-MAR-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       qwavahl
                                                                                                   WO9102746-A
                                                                                                                                     07-MAR-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Synthetic
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Π
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This peptide is a specifically claimed example of a generic formula. The C-terminal amino acid (Met) of the naturally occurring peptide has been converted to an amide and Phe 8 has been replaced by beta-Leu. Gy 6 has also been replaced by D-Ala. The peptide is useful for treating benign or malignant tissue proliferation, artherosclerosis, gastrointestinal disorders and diabetes. They act as competitive inhibitors of natural peptides, since they bind to the cell receptors but have no biological
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                          New linear peptide analogues of bombesin - modified to eliminate biological activity while retaining receptor affinity, for treating cancer, diabetes, etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
0
 Bombesin; litorin analogue; linear; receptor affinity; cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bombesin; litorin analogue; linear; receptor affinity; cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The analogue may also be of a naturally occurring peptide terminating at the C-terminus with a Met residue, such as the 10 amino acid C-terminal region of mammalian GRP or amphibian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 36; DB 12; Length 8;
Pred. No. 3.4e+05;
0; Mismatches 1; Indels
                                                                                                                /label= D-p-chloro-phenylalanine
                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                         (TULA ) ADMIN TULANE EDUCATIONAL. (BIOM-) BIOMEASURE INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 18; Page 54; 58pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAR11242 standard; Protein; 8 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   94.78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Linear litorin analogue (IV).
                                                                                                                                                                                                                        90WO-US04646
                                                                                                                                                                                                                                                                                                                                                            Kim SH;
                                                                                                                                                                                                                                                        89US-0397169
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       See also AAR11239-242.
                                                                                                                                                                                                                                                                                                                                                            Moreau JP,
                                                                                                                                                                                                                                                                                                                                                                                            WPI; 1991-087241/12.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ery Match
st Local Similarity
tches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QWAVXHL 8
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                                                                                       Key
Modified-site
                                                                                                                                                                                                                        17-AUG-1990;
                                                                                                                                                                                                                                                          21-AUG-1989;
                                                                                                                                                                                                                                                                        30-MAR-1990;
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                                                                                                                                                       WO9102746-A.
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                                                     Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
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                   diabetes.
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                                                                                                                                                                                                                                                                                                                                                            Coy DH,
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7

AAR11242 RESULT

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0;

Gaps

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Length 8;

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/note= "The amino terminal is acylated with acctyl, bromoacetyl, chloroacetyl, [bis(2-chloroethyl)-amino]-L-phenylalanine or a chlorambucil group"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New bombesin, gastrin releasing peptide or Neuromedin B or or 1 mys. - antagonists for treating conditions such as gastrointestring disorders, psoriasis and cancers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         eating disorder; diabetes; acromegaly; enterocutaneous fistula; psoriasis; growth retardation; gastrointestinal motility disorder; antitumour.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bombesin; antagonist; chlorambucil; peptic ulcer; pancreatitis;
                                                                                                                      The peptide is an example of a highly generic formula. It is in a medicament for treating hepatoma. The cpd. acts as antait to bombesin, which has been detected in a number of human car
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note= "The carboxy terminal is in the form of ethyl ester"
                                              Treatment of hepatoma - by admin. of admixed bombesin analogu with carrier
                                                                                                                                                                                                                                   Score 36; DB 13; Length 8; Pred. No. 3.4e+05; 0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Takahashi K;
  Moreau J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (PEPT-) PEPTIDE TECHNOLOGIES CORP.
                                                                                               Claim 15; Page 48; 54pp; English.
                                                                                                                                                                                                                                                                                                                                                                                          AAW64911 standard; peptide; 8 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 6; Page 34; 45pp; English.
                                                                                                                                                                                                                                    94.78;
85.78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bombesin receptor antagonist.
  Kim SH,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Chandrasekhar B, Knight M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             93US-0168390.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 1995-052004/07.
  COY DH,
                            WPI; 1992-415466/50
                                                                                                                                                                                                                                                 Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                            8 AA;
                                                                                                                                                                                                                                                                                          2 QWAVXHL 8
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2 qwavahl
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15-JUN-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             17-DEC-1993;
18-JUN-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        05-JAN-1995.
  Bodgen AE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                     AAW64911;
                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                10
                                                                                                                                                                                                                                                                                                                                                                             AAW64911
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;
0
                                                                                                                                                                                                                                                   Treatment of hepatoma - by admin. of admixed bombesin analogue
                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 36; DB 13; Length 8;
Pred. No. 3.4e+05;
0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note= "D-form residue"
                                                                                                                                                                                            Moreau J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hepatoma; liver cancer; antagonist.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  'note= "D-F5-Phe"
                                                                                                                                                                                                                                                                                           Claim 14; Page 48; 54pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAR29157 standard; peptide; 8 AA.
              /note= "Leu-OMe"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note= "Leu-OMe'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (BIOM-) BIOMEASURE INC. (TULA ) TULANE EDUCATIONAL FUND
                                                                                                                                                  (BIOM-) BIOMEASURE INC. (TULA ) TULANE EDUCATIONAL FUND.
                                                                                                                                                                                            Bodgen AE, Coy DH, Kim SH,
                                                                                                                                                                                                                                                                                                                                                                                                                                94.7%;
85.7%;
                                                                                             92WO-US03916.
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                                                                                                                        91US-0698681
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               6; Conservative
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                                                                                                                                                                                                                       WPI; 1992-415466/50
                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
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2 qwavahl 8
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Modified-site
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                                                                                             11-MAY-1992;
                                                                                                                        10-MAY-1991;
                                                                                                                                                                                                                                                                 with carrier
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AAR29157
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Gaps

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The patent discloses (1) the peptide sequence of bombesin (BBN), the peptide sequence having a chlorambucil group attached to the amino terminal; (2) a BBN receptor antagonist of formula and the peptide sequence having a chlorambucil group attached to the amino terminal; (2) a BBN receptor antagonist of formula and the second sequence of formula and the second sequence of formula and the sequence of compounds of sequence of sequence of formula and the sequence of sequen
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence of Bombesin receptor peptide ligand with irreversible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bombesin receptor peptide ligands with irreversible effects - agonists and antagonists both weak and strong
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /label- H-pMel
/note= "pMel= p-bis (2-chloroethyl)
amino-L-phenylalanine"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 36; DB 16;
Pred. No. 3.4e+05;
0; Mismatches 1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bombesin receptor; agonist; antagonist.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /label= Met-NH2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (FARM ) FARMITALIA C ERBA SPA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           94.7%;
85.7%;
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88GB-0017379.
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Best Local Similarity
Matches 6; Conserv
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Modified-site
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2 qwavahl
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21-JUL-1988;
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Gaps
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                                                                                                                                                                                                                                                                                                       Example of peptide agonist of GRP, neuromedin, bombesin and litorin.
                               The inventors claim 36 peptides. Also claimed are: (a) pharmaceutical prepn. of a peptide of the invention; (b) prepn.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This is a peptide analogue of mammalian gastrin releasing peptide (GRP), neuromedin-B or -C, amphiblan bombesin and litorin.
It is an agonist of these cpds. and is used to treat smooth muscl. proliferation and cancer of the prostate, breast or lung.
Residue 6 (Ala) is D-alanine.
See also AAR11519-21 and AAR11523-30.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 9;
                                                                                                                                    1; Indels
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                                                                                                               Length
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/label= OTHER
/note= "D-p-chlorophenylalanine"
                                                                                                            Score 36; DB 11;
Pred. No. 3.4e+05;
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Pred. No. 3.4e+05;
0; Mismatches 1.
                                                                                                                                                                                                                                                                                                                             Non-malignant proliferative disease; cancer.
                                                                                                                                    Mismatches
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                                                                                                                                                                                                                                     AAR11522 standard; Protein; 9 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 22; page 54; 73pp; English.
         Claim 2; Page 26; 32pp; English.
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                                                                                                            94.78;
85.78;
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89US-0408125.
89US-0440039.
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85.78;
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                                                                                                                                     Conservative
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                                                                                                WPI; 1991-117320/16.
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Best Local Similarity
Matches 6; Conserv
                                            (a) pharmaceuticalof the peptides.
                                                                               AA;
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21-NOV-1989;
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AAR14865

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The C-terminal residue is amidated. This peptide is one of 27 specific examples of a highly generic formula. The peptides are all amalogues of either litorin; the 10 amino acid C-terminal region of mammalian GRP, neuromedin B or neuromedin C; or the 10 amino acid C-terminal region of amphibian bombesin. They act as at least partial agonists of the natural peptides. The peptide analogues are made by standard methods of synthesis and can be cyclised.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Peptide agonists of litorin, gastrin releasing peptide - neuromedin B or C or bombesin, for treating cancer, preventine smooth muscle proliferation and suppressing appetite and alcohor:
                                                                                  tissue proliferation; gastrin related peptide; peptide hormon.
                                                   Peptide analogue #7 of litorin, GRP, neuromedin or bombesin.
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                                                                                                                                                                                /label= D-Phe
                                                                                                                                                                                                               /label= D-Ala
                                                                                                                                                                                                                                                                                                          91WO-0003265.
                                                                                                                                                                                                                                                                                                                                                                                                                     Kim SH, Moreau JP;
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                     (first entry)
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Matches 6; Conserv
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                     14-FEB-1992
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                                                                                                                Synthetic
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Peptide agonists of litorin, gastrin releasing peptide -
neuromedin B or C or bombesin, for treating cancer, preventing
smooth muscle proliferation and suppressing appetite and alcohol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                        proliferation; gastrin related peptide; peptide hormone.
                                                                                                                                                                                                         Peptide analogue #6 of litorin, GRP, neuromedin or bombesin.
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Pred. No. 3.4e+05;
3; Mismatches 1; Indels
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                                                                                                            AAR14865 standard; Protein; 9 AA.
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                                                                                                                                                                                                                                                                                                                                     /label= D-Phe
                                                                                                                                                                                                                                                                                                                                                                      /label= D-Ala
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85.78;
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                                                                                                                                                                             (first entry)
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Best Local Similarity
Matches 6; Conserv
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qwavahl 8
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Modified-site
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2 qwavahl
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AAR14866

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The C-terminal residue is amidated. This peptide is one of 27 specific examples of a highly generic formula. The peptides are all analogues of either litorin; the 10 amino acid C-terminal region of mammalian GRP, neuromedin B or neuromedin C; or the 10 amino acid C-terminal region of amphibian bombesin. They act as at least partial agonists of the natural peptides. The peptide analogues are made by standard methods of synthesis and can be cyclised.
                                                                                                                                                                                                                                                                                                   Peptide agonists of litorin, gastrin releasing peptide -
neuromedin B or C or bombesin, for treating cancer, preventing
smooth muscle proliferation and suppressing appetite and alcohol
                          /note= "D-para-chloro-Phe"
                                                                                                                                                                                                 (TULA ) TULANE E FUND ADMINISTRA. (BIOM-) BIOMEASURE INC.
                                                                                                                                                                                                                                                                                                                                                                         Claim 10; Page 18; 25pp; English.
             /label= OTHER
                                                       /label= D-Ala
                                                                                                                                                                                                                                             Coy DH, Kim SH, Moreau JP;
                                                                                                                                           91WO-0003265
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Modified-site
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rch completed: October 25, 2001, 11:22:46 Job time: 219 sec

o;

0; Gaps

94.7%; Score 36; DB 12; Length 9; 85.7%; Pred. No. 3.4e+05; ive 0; Mismatches 1; Indels

Query Match 94.7 Best Local Similarity 85.7 Matches 6; Conservative

2 QWAVXHL 8 |||| || 2 qwavahl 8

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October 25, 2001, 11:27:45; Search time 135.34 Seconds (without alignments) 7.821 Million cell updates/sec
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GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
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Gapop 10.0 , Gapext 0.5
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sp_organelle:*
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38
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution. SUMMARIES

Description	Ogdsp4 saint croix Ogm2hl arabidopsis Ogx5g8 streptcomyce Q21051 caenorhabdi Q9dd12 brachydanio Q911x2 pseudomonas Q64981 artichoke 1 Q90253 bombina ori	09jm34 mus musculu 09uve4 zygosacchar 085726 streptomyce 09p6y1 neurospora 09vzf7 drosophila 09tiq5 prototheca 027106 trichomonas 09parl xylella fas 065366 antirrhinum 09fuk9 pisum sativ
ID	Q9DSP4 Q9M2H1 Q9M2H1 Q21051 Q9DDL2 Q9DIX2 Q911X2 Q64981 Q64981 Q90253	Q9JM34 Q9UVE4 Q8UVE4 Q9P6Y1 Q9VZF7 Q9TJQ5 Q27JQ6 Q27AR1 Q5366 Q9FUK9
BO	14 10 13 13 13 13 14 13	11 3 3 3 5 8 8 8 10 10
% Query Aatch Length DB	517 174 328 353 806 95 119 119	216 232 232 236 256 373 325 335 357
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675 696 1275 1275 1275 1275 1276 1276 1276 1276 1276 1276 1276 1276	691 700 719 721 858
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ALIGNMENTS

RESULT 1 Q9DSP4 D Q9DSP4 PRELIMINARY; PRT; 517 AA. AC Q9DSP4,		RP SEQUENCE FROM N.A. RA Attoul H., De Micco P., de Lamballerie X.; RT "Complete nucleotide sequence of Saint Croix river virus."; RT Submitted (APR-1999) to the EMBL/GenBank/DDBJ databases. DR EMBL; AF145403; AAG34262.1; SQ SEQUENCE 517 AA; 58030 MW; 0104A543FB2A1B1A CRC64;	Query Match Best Local Similarity 71.4%; Pred. No. 51; Matches 5; Conservative 1; Mismatches 1; Indels v; Gaps	Qy 2 QWAVXHL 8 : Db 500 QWALAHL 506	RESULT 2 Q9M2H1 ID Q9M2H1 AC Q9M2H1; DT 01-0CT-2000 (TrEMBLrel. 15, Created) DT 01-0CT-2000 (TrEMBLrel. 15, Last sequence update) DT 01-0CT-2000 (TrEMBLrel. 15, Last annotation update) DT NOT-2000 (TrEMBLrel. 15, Last annotation update) DT TAP22.40. OS Arabidopsis thaliana (Mouse-ear cress).	OC Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermutor a; OC Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eur. I;
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Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhahdiloidea; Rhabditidae; Peloderinae; Caenorhabditis.
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Pred. No. 55;
1; Mismatches
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01-MAR-2001 (TrEMBLrel. 16, Last sequ
01-MAR-2001 (TrEMBLrel. 16, Last anno
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71.4%;
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57.18;
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nes 5; Conserv
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201 EWAVNHL 207
                             NCBI_TaxID=6239;
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EMBL; AF124929; AAD30471.1; -.
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                                            D'Angelo M., Vezzi A., Modesto D., Pigazzi M., Valle G., Mewes H.W., Lemcke K., Mayer K.F.X., Quetier F., Salanoubat M.; Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Streptomyces clavuligerus.

Bacteria; Firmicutes; Actinobacteria; Actinobacteridae;
Actinomycetales; Streptomycineae; Streptomyces.

NCBI_TaxID=1901;
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                                                                                                                                                                                                          Score 32; DB 10; Length 174;
Pred. No. 27;
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                                                                                                                                                                                                                                        1; Indels
                                                                                                               EU Arabidopsis sequencing project,
Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
EMBL, AL137082; CAB68183.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4CBC78DAD5215034 CRC64;
                                                                                                                                                                     4C27267C5E53B4DB CRC64;
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Last annotation update)
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51;
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Pred. No.
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MEDLINE-99240369; PubMed=10223939;
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Transferase; Porin.
                                                                                                                                                         Hypothetical protein.
SEQUENCE 174 AA; 19189 MW;
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71.4%;
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Best Local Similarity 83.3
Matches 5; Conservative
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Caenorhabditis elegans.
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Best Local Similarity
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        NCBI_TaxID=3702;
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47 EWAVDHL 53
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01-NOV-1998
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09X5G8

RESULT Q9X5G8

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STRAIN=BRISTOL N2;
Milson R., Ainscough R., Anderson K., Baynes C., Berks M.,
Milson R., Ainscough R., Anderson K., Baynes C., Berks M.,
Bonfield J., Burton J., Connell M., Copsey T., Cooper J., Coulson A.,
Craxton M., Dear S., Du Z., Durbin R., Favello A., Fulton L.,
Jones M., Kershaw J., Kirsten J., Laister M., Latrellle P.,
Jones M., Kershaw J., Kirsten J., Laister N., Latrellle P.,
Jones M., Kershaw J., Kirsten J., Laister N., Latrellle P.,
Parsons J., Percy C., McMurray A., Mortimore B., O'Callaghan M.,
Parsons J., Percy C., Riffen L., Roopra A., Saunders D., Shownkeen R.,
Smaldon N., Smith A., Sonnhammer E., Staden R., Sulston J.,
Watson A., Weinstock L., Wilkinson Sproat J., Wohldman P.,
Watson A., Weinstock L., Wilkinson Sproat J., Wohldman P.,
"2.2 Mb of contiguous nucleotide sequence from chromosome III of C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Uren A.G., O'Rourke K., Aravind L., Pisabarro M.T., Seshagiri S. Koonin E.W., Dixit V.M.; "Identification of Paracaspases and Metacaspases. Two Ancient Famil. of Caspase-like proteins, One of which Plays a Key Role in MALT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii; Neopterygii; Teleostei; Buteleostei; Ostariophysi;
Cypriniformes; Cyprinidae; Rasborinae; Danio.
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Pred. No. 1.3e+02;
2; Mismatches 1; Indels
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Lymphona.";
MOL. Cell 6:961-967(2000).
EMBL, AF316598; AAG38590.1; -.
EMBL, AF316598; AAG38590.1; -.
EMBL, AF316598; AAG38590.1; -.
EMBL, AF316598; AAG38590.1; -.
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RESULT Q21051

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NCBI_TaxID=1299;
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51 QWAVGH 56
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                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
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Submitted (MAY-1995) to the EMBL/GenBank/DDBJ databases.
EMBL; X87255; CAA60708.1;
                                                                                                                                                                                                                                                                                                                             opportunistic pathogen.";
Nature 406:959-964(2000).
EMBL, AE004641; AAG05531.1; -.
HYpothetical protein.
SEQUENCE 95 AA: 10821 MW; 5723E5D0CD08841F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C4A6316685E31078 CRC64;
                                                                                       01-MAR-2001 (TrEMBLrel. 16, Created)
1-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
HYPOTHETICAL PROTEIN PA2143.
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01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-AUG-1998 (TrEMBLrel. 07, Last annotation update)
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                                                                                                                                                                                                                                                                                                                                                                                                              Score 31; DE
Pred. No. 23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MRNA UNKNOWN FUNCTION (523BP) (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                                                  PRT;
                                                                                                                                                                                                                                   MEDLINE=20437337; PubMed=10984043;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        98 AA; 11570 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            81.6%;
83.3%;
                                                                                                                                                                                                                                                                                                                                                                                                               81.6%;
71.4%;
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Best Local Similarity 83.3
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                        5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRELIMINARY;
                                                                 PRELIMINARY;
                                                                                                                                                    Pseudomonas aeruginosa
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Best Local Similarity
                                                                                                                                                                                                             SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Potyvirus.
NCBI_TaxID=46076;
|||: |:
559 QWAIAHV 565
                                                                                                                                                                                     NCBI_TaxID=287;
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                                                                                                                                                                                                                        STRAIN-PAO1;
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SEQUENCE
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Q64981;
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064981
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Bombina orientalis (Oriental fire-bellied toad).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Butelcontomi;
Amphibia; Batrachia; Anura; Archeobatrachia; Bombinatoridae; Bombina.
NCBI_TaxID=8346;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  White O., Eisen J.A., Heidelberg J.F., Hickey E.K., Peterson J.D., Dodson R.J., Haft D.H., Gwinn M.L., Nelson W.C., Richardson D.E., Moffat K.S., Qin H., Jiang E., Pamphile W., Crosby M., Shen M., Vamathevan J.J., Lam P., McDonald L., Utterback T., Zalewski C., Makarova K.S., Aravind L., Daly M.J., Minton K.W., Fleischmann K.B., Ketchum K.A., Nelson K.E., Salzberg S., Smith H.O., Venter J.C.,
                                                                                                                                                                                                                                    MEDLINE=96205965; PubMed=8631814;
Magalla S.K., Barry B.J., Falick A.M., Gibson B.W., Taylor | E.,
Nagalla S.K., Sarry B.J., Falick A.M., Gibson B.W., Taylor | E.,
Dong J.Z., Spindel E.R.;
"There are three distinct forms of bombesin. Identification of
[Leul3] bombesin, [Phe13] bombesin, and [Ser3, Arg10, Phe13] bombes... in
the frog Bombina orientalis.";
J. Biol. Chem. 271:7731-7731-1996).
EMBL; U49450; AAC59784.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bacteria; Thermus/Deinococcus group; Deinococcales; Deinococcus.
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Pred. No. 29;
0; Mismatches 1; Indels
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3C9BDF367441E99A CRC64;
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                                  01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
PHE-13 BOMBESIN PREPROHORMONE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Last sequence update)
Last annotation update)
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01-MAY-2000 (TrEMBLrel. 13, Last seq
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MEDLINE=20036896; PubMed=10567266;
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Pfam; PF02044; Bombesin; 1.
PROSITE; PS00257; BOMBESIN; 1.
CHAIN 45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE 119 AA; 13888 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Hypothetical protein.
SEQUENCE 183 AA; 20468 MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        81.6%;
83.3%;
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EMBL; AE001862; AAF12366.1;
TIGR; DRA0103; -.
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PRELIMINARY;
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Length 183;

DB 2;

81.6%; Score 31;

Query Match

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RESULT Q9JM34

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AC DE DE OCC OCC OCC OCC

RA RT RT RT DR DR DR FT FT

Matches

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Bacteria; Firmicutes; Actinobacteria; Actinobacteridae; Actinomycetales; Streptomyccs.
                                                                                                                                                                                                                                                                                                                                                                                                        Alexander D.C., Jensen S.E., "Investigation of the Streptomyces clavuligerus cephamycin C _{\rm gene}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pezizomycotina; Sordariomycetes;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 31; DB 3; Length 256;
Pred. No. 64;
0; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Schulte U., Aign V., Hoheisel J., Brandt P., Fartmann B., Nyakatura G., Mewes H.W., Mannhaupt G.; Submitted (APR-2000) to the EMBL/GenBank/DDBJ databases.
            Indels
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Submitted (APR-2000) to the EMBL/GenBank/DDBJ databases
EMBL, AL353820; CAB88603.1;
InterPro; IRF001601;
SEQUENCE 256 AA; 27789 MW; 5251FBC58B6BDDD9 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   27584 MW; FDIEF1B650AF8070 CRC64;
                                                                                                                                                                                        01-NOV-1998 (TrEMBLrel. 08, Created)
01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
01-NOV-1998 (TrEMBLrel. 08, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Last sequence update)
Last annotation update)
        5
                                                                                                                                                                                                                                                                                                                                                                                                                                         cluster and its regulation by the CcaR protein.";
J. Bacteriol. 180:4068-4079(1998).
EMBL; AF073896; AAC32491.1; -.
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                                                                                                                                                          236 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 31; DB 2
Pred. No. 59;
1; Mismatches
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        Mismatches
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Sordariales, Sordariaceae, Neurospora
NCBI_TaxID=5141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Created)
                                                                                                                                                          PRT;
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                                                                                                                                                                                                                                                                                                                                                                       STRAIN=NRRL 3585;
MEDLINE=98361893; PubMed=9696752;
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01-0CT-2000 (TEMBLREL. 15, Las
01-MAR-2001 (TEMBLREL. 16, Las
CONSERVED HYPOTHETICAL PROTEIN.
                                                                                                                                                                                                                                        CEPHALOSPORIN HYDROXYLASE CMCI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         81.68;
71.48;
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Best Local Similarity 71.4%;
Matches 5; Conservative
                                                                                                                                                                                                                                                                          Streptomyces clavuligerus
      Conservative
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                                                                                                                                                         PRELIMINARY;
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Best Local Similarity
Thes 5; Conserve
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SEQUENCE FROM N.A.
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                                                                       OWCVGHL 146
                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=1901;
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                                       2 QWAVXHL 8
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        Matches
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                      Gaps
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01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
0LFACTORY RECEPTOR (FRAGMENT).
0LFACTORY RECEPTOR (FRAGMENT).
EURALOLIS Gomesticus (western European house mouse).
EURALOCA: Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sychrova H., Braun V., Potier S., Souciet J.L.; Genomic organization of Pichia sorbitophila and Zygosaccharomyces rouxii genomes:comparison with Saccharomyces cerevisiae."; Submitted (DEC-1998) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                "The olfactory receptor gene repertoire in primates and mouse: Evidence for reduction of the functional fraction in primates."; Proc. Natl. Acad. Sci. U.S.A. 97:2870-2874(2000).
EMBL, Ac073967; AAD43416.1; ...
Interpro: IPR000276; ...
Pfam; PF00001; 7tm_1; 1.
PROSITE; PS00237; G_PROTEIN_RECEPTOR; UNKNOWN_1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Zygosaccharomyces rouxii (Candida mogii).
Eukaryota; Fungi; Ascomycota; Saccharomycoties;
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                   Indels
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SEQUENCE 232 AA; 26369 MW; 43CD832A6ED7F6B4 CRC64;
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01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
HYPOTHETICAL 26.4 KDA PROTEIN.
                   1;
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58;
                                                                                                                                                                   216 AA.
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 Pred. No. 45;
1; Mismatches
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Mismatches
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Pred. No.
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=20183981; Pubmed=10706615;
Rouquier S., Blancher A., Giorgi D.;
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71.48;
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InterPro; IPR001601; -.
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83.3%;
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71.4%;
                 5; Conservative
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 Best Local Similarity
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Best Local Similarity
Matches 5; Conserv
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*Best Local Similarity
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R.A. Addams N.D., Celniker S.E., Holf R.A., Evans C.A., Gocayne J.D.,
R.A. Addams N.D., Celniker S.E., Holf R.A., Evans C.A., Gocayne J.D.,
R.A. George R.A., Lewis S.E., II P.W., Hoshins R.A., Galle R.E.,
R.A. Branding G.G., Wortman J.R., Yandell W.D., Zhang O., Chen L.X.,
R.A. Brandon R.C., Rogest Y.-H.C., Blazef R.G., Champe M., Pfelifer B.D.,
R.A. Addams A.D., Baxenfale J.B., Blander G., Miklos G.L.G.,
R.A. Ballaw R.M., Basu A., Baxendale J.P., Bardews-Pfannkoch C., Baldwin D.,
R.A. Ballaw R.M., Basu A., Baxendale J.P., Bardews-Pfannkoch C., Baldwin D.,
R.A. Ballaw R.M., Basu A., Baxendale J.P., Bardews-Pfannkoch C.,
R.D. Borchan M.R., Bouw C.J., Bayraktaroglu L., Beasley E.M.,
Ballew R.M., Cawley S., Laulter H., Cadieu E., Center A., Chandra I.,
R.A. Chang R., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,
R.A. Dodson K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,
R.A. Gong F., Gorrell J.H., Gu Z., Gunn P., Harris M.,
R.A. Gong F., Gorrell J.H., Gu Z., Gunn P., Harris M.,
R.J. Harris N.L., Harvey D., Heiman T.J., Well M.-H., Ibeywan C.,
J. Jasko P., Lei Y., Karpen G.H., Re Z., Kennigton J.A., Ketchum K.A.,
R.A. Harris N.L., Harvey D., Heiman T.J., Well M.-H., Ibeywan C.,
J. Jasko P., Lei Y., Levitsky A.A., Li J., Li Z., Liang Y., Lin X.,
Jasko P., Lei Y., Levitsky A.A., Li J., Li Z., Liang Y., Lin X.,
Jasko P., Lei Y., Levitsky A.A., Li J., Li Z., Morberson D.,
Reliner K., Nellson K.A., Nixon K., Nusskern D.R., Pacleb J. M.,
Rabson D.R., Noly M., Murphy B., Murphy C., Morris J., Moshrefi A.,
Rabson D.R., Noly M., Murphy B., Murphy C., Strong R., She H.,
Spier E., Spradling A.C., Staplecton M., Strong R., She H.,
Spier E., Spradling A.C., Staplecton M., Strong R., San S.,
R. Jilans R.A., Woster J., Wolder T., Wan Y., Shen H.,
R. Jeheng K.H., Rodonge T., Worley K.C., Wan Y., San S.,
R. Jilans R.A., Woster B., Wolder J., Wolder J., Wolder J., Shang S.,
R. Jeheng X.H., Zhong F.N., Zhong F., Shang S.,
R. Jeheng X.H., Z
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                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 29823 MW; FC97694BDFF80F33 CRC64;
                                                                                                                                                                                                                                                                    Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                     Created)
                                                                                                                                                                                                                                                                                                                                                                                    Drosophila melanogaster (Fruit fly)
                                                                                                                                                                          PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN=BERKELEY;
MEDLINE=20196006; PubMed=10731132;
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FlyBase; FBgn0001257; ImpL2.
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                                                                                                                                                                          PRELIMINARY;
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| | | | | | 162 QWCVGHL 168
                                                                                                                                                                                                                                                                                                                         IMPL2 PROTEIN.
IMPL2 OR CG15009.
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NCBI_TaxID=7227;
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                                                                                                                  RESULT 14
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0; Gaps

2; Indels

0; Mismatches

81.6%; Score 31; DB 5; Length 266; 71.4%; Pred. No. 66;

Query Match 81.6 Best Local Similarity 71.4 Matches 5; Conservative

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O
                                                                                                                                                                                                                   Chloroplast.
Eukaryota; Viridiplantae; Chlorophyta; Trebouxiophyceae; Chlorellales;
Chlorellaceae; Prototheca.
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"A 22 kb fragment of the 53 kb plastid genome of the colourless alga
                                                                                                                                                                                                                                                                                                                                                                                                                         Prototheka wickerhamii containing atp-, rpl-,rps-, rrn-, and trn-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       81.6%; Score 31; DB 8; Length 273; 71.4%; Pred. No. 68;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                genes.";
Submitted (AUG-1999) to the EMBL/GenBank/DDBJ databases
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Last annotation update)
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PROSITE; PS00178; AS_TENA_LIGASE_I; UNKNOWN_1.
RIDOSOTTE; PS00467; RIBOSOMAL_L2; 1.
Ribosomal protein; Chloroplast.
                                         273 AA
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                                                                                     Created)
                                           PRT;
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HSSP; P04257; IRL2.
InterPro; IPR001412; -..
InterPro; IPR002171; -..
InterPro; IPR002222; -..
Pfam; PF00181; Ribosomal_L2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             29952 MW;
                                                                                                       01-MAY-2000 (TTEMBLEEL: 13, 01-MAR-2001 (TTEMBLEEL: 16, 50S RIBOSOMAL PROTEIN L2.
                                                                                     01-MAY-2000 (TrEMBLrel. 13,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity 71.4%
Grand Si Conservative
                                           PRELIMINARY;
                                                                                                                                                                                                 Prototheca wickerhamii.
                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                        NCBI_TaxID=3111;
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RESULT 15
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GenCore version 4.5
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OM protein - protein search, using sw model

October 25, 2001, 11:28:30 ; Search time 40.36 Seconds (without alignments) 6.790 Million cell updates/sec Run on:

US-09-630-333-11 38 1 XQWAVXHL 8 Title: Perfect score: Sequence: Scoring table:

BLOSUM62 Gapop 10.0 , Gapext 0.5

93435 seqs, 34255486 residues Searched:

93435

l number of hits satisfying chosen parameters: Minimum DB seq length: 0 Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

SwissProt_39:* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

	Description	P08944 alytes obst		P21591 bombina ori	P08945 litoria aur	P42991 pseudophryn			Q09024 drosophila		P07994 bos taurus	P04087 sus scrofa	Q04997 mus musculu				P09472 scyliorhinu		P01295 gallus gall	P01294 sus scrofa	P31886 alligator m			P24393 rattus norv			••	077755 trichosurus	P05111 homo sapien	P55101 equus cabal		748	75520	P45099 haemophilus
SUMMARIES	ΙD	ALYT_ALYOB	BOMB_BOMVA	BOMB_BOMOR	LITO_LITAU	BOML_PSEGU	RANA_RANPI	YB9H_YEAST	IML2_DROME	IHA_SHEEP	IHA_BOVIN	IHA_PIG	IHA_MOUSE	IHA_RAT	SWI6_KLULA	GRP_RANRI	GRP_SCYCA	GRP_CANFA	GRP_CHICK	GRP_PIG	GRP_ALLMI	NEUB_XENLA	GRP_SHEEP	GRP_RAT	GRP_HUMAN	GRP_BOMOR	AGL8_SOLCO	IHA_TRIVU	IHA_HUMAN	IHA_HORSE	GYP6_YEAST	YDRE_SCHPO	PGSA_MYCPN	GCVA_HAEIN
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d	Query Match	92.1	92.1	92.1		81.6															78.9												76.3	76.3
	Score	35	35	35	31	31	31	31	31	31	31	31	31	31	31	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	29	29	29
	Result No.	1	7	e	4	5	9	7	8	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	56	27	28	29	30	31	32	33

Q52814 rbizobium 1 P05376 sendominus P29940 pseudominus P52672 increas ar P57501 to increas ar P57501 to increas ar P5489 to recooly P51093 viris vinit P09273 raticalla-2 P51092 petunia hyb P49264 thiasp			·	= toad). a; Craniata; Vertebrata; Euteleosromi; Archeobatrachia; Discoglossidae; Alytes.	n R.; mphibian species from EDIN B/RANATENSIN	XYLIC ACID. CRC64;	Length 14; 1; Indels · Caps U		AA. te) date) and Vertebrata; Euteleos' hia; Bombinatoridae; ''
76.3 384 1 AAPM_RHILV 76.3 510 1 ACHG_XENLA 73.7 197 1 YCB7_PSEDE 73.7 249 1 CYSH_URN 73.7 244 1 CYSH_BUCAI 73.7 308 1 ACP1_ENTHI 73.7 353 1 COA2_POVBO 73.7 406 1 UL43_VZVD 73.7 430 1 LDOX_PETHY 73.7 496 1 C7B1_THAR 73.7 496 1 C7B1_THAR	ALIGNMENTS	STANDARD; PRT; 14 AA.	(Rel. 09, Created) (Rel. 28, Last sequence update) (Rel. 37, Last annotation update)	idwife oordata noura;	SEQUENCE. MEDLINE-84131098; PubMed-6141890; Erspamer V., Erspamer G.F., Mazzanti G., Endean R.; Erspamer V., Erspamer B.F., Mazzanti G., Endean R.; "Active peptides in the skins of one hundred amphibian Australia and Papua New Guinea."; Comp. Biochem. Physiol. 77C:99-108(1984) SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RA	Therpro: IPR000874; Pfam: PF02044; Bombosin; 1. PR0201E; PS00257; BombesIn; 1. PROSITE; PS00257; BombesIn; 1. PROBERIN; 1. PWDP_RES	- 0	13	ARD: PRT; 107 AA. Created) Last sequence update) Last annotation update) Last annotation update) ellow-bellied toad). Chordata; Craniata; Verte Anura; Archeobatrachia; 5; TISSUE-Skin;
334 335 336 337 337 339 339 339 441 432 432 433 434 444 452 453 454 453 454 453		JLT 1 LALYOB ALYT_ALYOB	PU8944; 01-NOV-1988 01-FEB-1994 15-DEC-1998	ALYTESIN. Alytes obstetricans (Malytes obstetricans; Chararyota; Metazoa; Champhibla; Batrachia; Puchilarinesians)	SEQUENCE. MEDLINE-8413 Erspamer V., "Active pept Australia an Comp. Bioche	InterPro; IPR000874 Pfam; PF02044; Bomb PROSITE; PS00257; B Bombesin family; Am MOD_RES 14 MOD_RES 14	atch cal	2 QWAVXHL 8 7 QWAVGHL 1	RESULT 2 BOMB_BOMVA ID BOMB_BOMVA STAND. AC P01296; DT 21-JUL-1986 (Rel. 01) DT 01-FEB-1995 (Rel. 31) DT 01-FEB-1996 (Re
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GASTROINTESTINAL HORMONES
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PIR; S07205; S07205.
InterPro; IPR000874; -.
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58
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Best Local Similarity
Matches 6; Conserv
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51 QWAVGHL 57
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Blainformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                   **MEDLINE**-91088602; PubMed=2263631; ***Relly M.; ***Cally M.; ***Cal
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Archeobatrachia; Bombinatoridae; Bombina.
Richter K., Egger R., Kreil G.; "Molecular cloning of a cDNA encoding the bombesin precursor in skin of Bombina variegata."; PEBS Lett. 262:353-355(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AMIDATION (G-56 PROVIDE AMIDE GROUP). 9692B50600FAF618 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                             SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
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PROSITE; PS00257; BOMBESIN; 1.
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01-WAY-1991 (Rel. 18, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
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                                                                                                                                                                      SPECIES=B.variegata, and B.bombina;
MEDLINE=72163516; PubMed=4537042;
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55 B9
42 P9
55 A1
12341 MW;
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PIR; B01564; BSTDY.
PIR; S09095; S09095.
INTEPTO; IPR000874; -.
Pfam; PF02044; Bombesin; 1.
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Best Local Similarity
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42
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107 AA;
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                                                                                                                                         SEQUENCE OF 42-55
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P21591;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
-1- TISSUE SPECIFICITY: LOCALIZED TO THE CUTANEOUS GRANULAR (1) AND THE SKIN AND THE BRAIN.
-1- SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANAIL(5):1N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sdr:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Anastasi A., Montecucchi P.C., Angelucci F., Erspamer V., Enden. R.; "Glu(OMe)3-litorin, the second bombesin-like peptide occurring in methanol extracts of the skin of the Australian frog Litoria auroa." Experientia 33:1289-1289(1977).
-: -SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Litoria aurea (Australian frog).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Amphibia, Batrachia, Anura, Neobatrachia, Bufonoidea, Hylidae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AMIDATION (G-59 PROVIDE AMIDE GROUSABABBA2445A4A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDINE-75187011; PubMed-1140241;
Anastasi A., Erspamer V., Endean R.;
"Aminoacid composition and sequence of litorin, a bombesin-like
nonapoptide from the skin of the Australian leptodactylid frog
                                                                                                                                                                                                                                                                                                                                                                                              i esidans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                =
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1.3;
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ProStTE; PS00257; BOMBESIN; 1.
Bombesin family; Amidation, Pethylation.
MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
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Cleavage on pair of basi
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15-DEC-1998 (Rel. 37, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     92.1%; Score 35;
85.7%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                             BOMBESIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE-78003546; PubMed-908397;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    13863 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE (METHYLATED VARIANT)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Experientia 31:510-511(1975).
                                                                                                                                                                                                                                                                                   EMBL; M55255; AAA48551.1; -.
                                                                                                                                                                                                                                                                                                                                              Pfam; PF02044; Bombesin; 1.
PROSITE; PS00257; BOMBESIN;
Bombesin family; Amidation;
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SEQUENCE OF 48-58.
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58
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51 QWAVGH 56
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                                                                                                  FAMILY
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SEQUENCE
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MEDLINE-902814; PubMed=2356157;
Simmaco M., Severini C., de Biase D., Barra D., Bossa F.,
Simmaco M., Severini C., de Biase D., Barra D., Bossa F.,
Roberts J.D., Melchiorri P., Erspaner V.;
"Six novel tachykinin- and bombesin-related peptides from the skin of
the Australian frog Pseudophryne guntheri.";
Peptides 11:299-304(1990).
-I- SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
                                                                                                                                                                                                                 Pseudophryne guentheri (Frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Neobatrachia; Bufonoidea; Myobatrachidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
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Ranidae; Rana.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
MEDLINE-88330837; PubMed-2458345;
Krane I.M., Naylor S.L., Helin-Davis D., Chin W.W., Spindel E.R.;
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                                               Score 31; DB 1; Length 9;
Pred. No. 9.3e+04;
0; Mismatches 1; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 31; DB 1; Length 13;
Pred. No. 1;
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  METHYLATION (IN A VARIANT).
                                                                                                                                                                                                                                                                                                                                                                                                                                   AMIDATION.
D6DE0D24BD98C366 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RANATENSIN PRECURSOR.
Rana pipiens (Northern leopard frog).
Eukaryota, Metaczo; Chordata; Craniata; Vertebrata;
Amphibia; Batrachia; Anura; Neobatrachia; Ranoidea;
          AMIDATION.
D7CCC1E862CDC366 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-NOV-1988 (Rel. 09, Created)
01-NOV-1988 (Rel. 09, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
                                                                                                                                                                         01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
01-NOV-1995 (Rel. 32, Last annotation update)
BOMBESIN-LIKE PEPTIDE L (PG-L).
                                                                                                                                                         13 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 82 AA
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InterPro; IPR000874. -.
Iffam; PF02044; Bombesin; I.
PROSITE; PS00257; BOMBESIN; I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        81.6%;
Similarity 83.3%;
5; Conservative
                                                81.6%;
llarity 83.3%;
Conservative
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9
1103 MW;
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                                               Query Match
Best Local Similarity
Matches 5; Conserv
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est Local Similarity
 9 AA;
                                                                                                                                                                                                                                                       NCBI_TaxID=30349;
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                                                                                                1111 1
2 QWAVGH 7
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P42991;
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P08950;
MOD_RES
MOD_RES
SEQUENCE
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SEQUENCE
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RANA_RANPI
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"Molecular cloning of cDNAs encoding the human bombesin-like peptide neuromedin B. Chromosomal localization and comparison to cDNAs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gal
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                                                                                                                                                                                  Nakajima T., Tanimura T., Pisano J.J.;
"Isolation and structure of a new vasoactive polypeptide.";
"Eed. Proc. 29:282-282(1970).
-i - SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATEN:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-OCT-1994 (Rel. 30, Created)
01-OCT-1994 (Rel. 30, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
HYPOTHETICAL 26.1 KDA PROTEIN IN POP4-SHM1 INTERGENIC REGION.
YBR261C OR YBR1729.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Saccharomyces cerevisiae (Baker's yeast).
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 82;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 1;
                                                            encoding its amphibian homolog ranatensin.";
J. Biol. Chem. 263:13317-13323(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     232 AA.
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-!- SIMILARITY: TO S.POMBE SPAC16E8.14C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RANATENSIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 31;
Pred. No. 6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; M21552; AAA49533.1; -. PIR; B28945; B28945.
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47
58
58
58
9159 MW;
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Best Local Similarity
Matches 5; Conserv
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IHA_SHEEP
P38440;
DISULFID
DISULFID
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NEURAL/ECTODERMAL DEVELOPMENT FACTOR IMP-
1G-LIKE C2-TYPE DOMAIN.
IG-LIKE C2-TYPE DOMAIN.
                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Bphydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.

STRAIN-CANTON-S; TISSUB-Embryo;

MEDLINE-94139565; PubMed-8306886;

MEDLINE-94139565; PubMed-8106886;

A Garbe J.C., Yang E., Fitstrom J.W.;

IMP-L2: an essential secreted immunoglobulin family member implicated in neural and ectodermal development in Drosophila.";

L Development 119:1237-1250(1993).

C -! FUNCTION: ESSENTIAL DEVELOPMENTAL ROLE DURING EMBRYOGENESIS, IN PARTICULAR THE NORMAL DEVELOPMENT OF THE NERVOUS SYSTEM. MAY BE INVOIVED IN SOME ASPECT OF CELL ADHESION.

C -: SUBCELLUIAR LOCATION: EXTRACELLUIAR.

C -: SUBCELLUIAR LOCATION: EXTRACELLUIAR.

C -: TISSUE SPECIFICITY: DETECTED IN SEVERAL SITES INCLUDING THE VENTRAL NEURORECTODERM, THE TRACHEAL PITS, THE PHARYNX AND C COSSOPHAGIS, AND SPECIFIC NEURONAL CELL BODIES, WHERE IT IS
                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIMARILY EXPRESSED.
DEVELOPMENTAL STAGE: FIRST EXPRESSED AT THE CELLULAR BLASTODERM
STAGE AND CONTINUES TO BE EXPRESSED THROUGH SUBSEQUENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DEVELOPMENT.
INDUCTION: BY 20-HYDROXYECDYSONE.
SIMILARITY: CONTAINS 2 IMMUNOGLOBULIN-LIKE C2-TYPE DOMAINS.
                                                                                                                                         0;
                                                                                                              Score 31; DB 1; Length 232;
Pred. No. 16;
0; Mismatches 2; Indels
                                                            Hypothetical protein.
SEQUENCE 232 AA; 26068 MW; 66699F37B0013088 CRC64;
                                                                                                                                                                                                                                                                                  01-FEB-1995 (Rel. 31, Created)
01-FEB-1995 (Rel. 31, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
MEURAL/ECTODERMAL DEVELOPMENT FACTOR IMP-L2 PRECURSOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      adhesion; Signal.
                                                                                                                                                                                                                                                         263 AA.
         EMBL; X70529; CAA49926.1; -. EMBL; Z36130; CAA85224.1; -. PIR; S32963; S32963. SGD; S0000465; YBR261C.
                                                                                                                81.6%;
71.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FlyBase; FBgn0001257; ImpL2.
InterPro; IPR003006; -.
Pfam; PF00047; ig; 2.
Immunoglobulin domain; Cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; L23066; AAB59251.1; -.
HSSP; P56276; 1TLK.
                                                                                                                                          Conservative
                                                                                                                                                                                                                                                           STANDARD;
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263
                                                                                                  Query Match
Best Local Similarity
5; Conserve
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184
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009024;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ovis aries (Sheep).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Caprine; Ovis.
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BY SIMILARITY.
BY SIMILARITY.
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . ) (POTENTIAL).
M'LINKED (GLCNAC. . ) (POTENTIAL).
W; D880E9AB156B6656 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUE-Ovary;
Sadanandan S.L., Jeyaseelan K.;
Submitted (FEB-1994) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: INHIBIN IS A GONDAL GLYCOPEPTIDE THAT INHIBITS THE SECRETION OF FOLLITROPIN BY THE PITUITARY GLAND.
-!- SUBUNIT: DIMERIC, LINKED BY ONE OR MORE DISULFIDE BONDS.
INHIBIN A IS A DIMER OF ALPHA AND BETA-A.
INHIBIN B IS A DIMER OF ALPHA AND BETA-B.
-!- SIMILARITY: BELONGS TO THE TGF-BETA FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
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PROSITE; PS00250; TGF_BETA_1; 1.
Follitropin inhibitor; Contraceptive; Hormone; Glycoprotein.
                                                                                                                                      Length 263;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 265;
                                                                    44AADB1B22DD1804 CRC64;
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71.4%; Pred. No. 19;
Live 1; Mismatches 1
                                                                                                                                      Score 31; DB 1;
Pred. No. 18;
                                                                                                                                                                                                                                                                                                                                                                                                                                               01-0CT-1994 (Rel. 30, Created)
01-0CT-1994 (Rel. 30, Last sequence update)
01-0CT-1994 (Rel. 30, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                        265 AA.
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                                                                                                                                                                                       0; Mismatches
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                                                                    29421 MW;
                                                                                                                                         81.6%;
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                                                                                                                                                                                       5; Conservative
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Best Local Similarity
5; Conserv?
76
191
173
263 AA;
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167
265 AA;
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74 RWAVLHL 80
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
TISSUB-FOllicular fluid;
MEDLINE-86205842; PubMed=3458167;
Forage R.G., Ring J.M., Brown R.W., McInerney B.V., Cobon G.S.,
Gregson R.P., Robertson D.M., Morgan F.J., Hearn M.T.W., Findlay J.K.,
Wettenhall R.E.H., Burger H.G., de Kretser D.M.;
"Cloning and sequence analysis of CDNA species coding for the two
subunits of inhibin from bovine follicular fluid.";
Proc. Natl. Acad. Sci. U.S.A. 83:3091-3095(1986).
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PROSITE; PS00250; TGF_BETA_1; 1.
FOLLITROPIN inhibitor; Contraceptive; Hormone; Glycoprotein; Signal.
SIGNAL 1 17 POTENTIAL.
                                                                                                                                                                                                                                                                       Bos taurus (Bovine).
Sukaryota: Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Bovinne; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Thompson D.A., Cronin C.N., Martin F.; faceonic cloning and sequence analyses of the bovine alpha-, beta and beta B-inhibin/cativin genes. Identification of transcription factor AP-2-binding sites in the 5'-flanking regions by DNase I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 footprinting.";
Eur. J. Biochem. 226:751-764(1994).

Fur. J. Biochem. 226:751-764(1994).

FUR. J. Biochem. 226:751-764(1994).

FUR. J. Biochem. 226:751-764(1994).

FUR. J. Biochem. 226:751-764(1994).

SECRETION OF FOLLITROPIN BY THE PITUITARY GLAND.

SECRETION OF FOLLITROPIN BY THE PITUITARY GLAND.

INHIBIN A IS A DIMER OF ALPHA AND BETA-B.

INHIBIN B IS A DIMER OF ALPHA AND BETA-B.

INHIBIN B IS A DIMER OF ALPHA AND BETA-B.
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N-LINKED (GLCNAC. . .) (POTENTIAL).
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                                                                                                              (Rel. 08, Created)
(Rel. 08, Last sequence update)
(Rel. 35, Last annotation update)
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BY SIMILARITY.
BY SIMILARITY.
                                                       360 AA
                                                       PRT;
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                                                                                                                                                                                                             INHIBIN ALPHA CHAIN PRECURSOR.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PIR; A25732, A25732.
InterPro; IPR001839; -.
InterPro; IPR002405; -.
Pfam; PF00019; TGF-beta; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE OF 1-87 FROM N.A. TISSUE=Liver;
                                                       STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                226
360
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                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=9913;
                                                                                                              01-AUG-1988
01-AUG-1988
01-NOV-1997
                                                       IHA_BOVIN
P07994;
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CARBOHYD
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                                                          DRADER DRADER NOT BE A CONTROL OF THE STATE OF THE STATE
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Score 31; DB 1; Length 360; Pred. No. 25;

81.68; 71.48;

Query Match Best Local Similarity

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                                                                                                                                                                                                                                                                                                                                                                                                                           TISSUENCE FROM N.A., AND SEQUENCE OF 231-256.

TISSUE-Ovarian follicular fluid;
MEDLINE-86092207; PubMed-241721;
Mason A.J., Hayflick J.S., Ling N., Esch F., Ueno N., Ying . ).,
Guillemin R., Niall H., Seeburg P.H.;
"Complementary DNA sequences of ovarian follicular fluid inhibin show precursor structure and homology with transforming growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRINTS; PR00669; INHIBINA.
PROSITE; PS00250; TGF_BETA_1; 1.
Follitropin inhibitor; Contraceptive; Hormone; Glycoproteil. . Ingnal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NATURE 318:659-663(1985).

-1- FUNCTION: INHIBIN IS A GONADAL GLYCOPEPTIDE THAT INHIBITS THE SECRETION OF FOLLITROPIN BY THE PITUITARY GLAND.

-1- SUBUNIT: DIMMRIC, LINKED BY ONE OR MORE DISULFIDE BONDS.

INHIBIN A IS A DIMER OF ALPHA AND BETA-A.

INHIBIN B IS A DIMER OF ALPHA AND BETA-B.

-1- SIMILARITY: BELONGS TO THE TGF-BETA FAMILY.
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N-LINKED (GLCNAC. .) (POTENTIA.).

N-LINKED (GLCNAC. .) (POTENTIA....

R -> H (IN REF. 2).

A -> T (IN REF. 2).
                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
MEDLINE=86287350; PubMed=3016724;
MAYO K.E., Cercalli G.M., Spiess J., Rivier J., Rosenfeld M : .
Evans R.M., Vale W.,
"Inhibin A-subunit cDNAs from porcine ovary and human placemita."
Proc. Natl. Acad. Sci. U.S.A. 83:5849-5853(1986).
                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eutelea.
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
NCBI_TaxID=9823;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INHIBIN ALPHA CHAIN.
                                                                                                                                           01-NOV-1986 (Rel. 03, Created)
01-APR-1988 (Rel. 07, Last sequence update)
01-FEB-1996 (Rel. 33, Last annotation update)
NHIBIN ALPHA CHAIN PRECURSOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
                                                                                                               364 AA
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                                                                                                               STANDARD;
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169 RWAVLHL 175
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231
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2 QWAVXHL 8
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CONFLICT
CONFLICT
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-:- FUNCTION: INHIBIN IS A GONDAL GLYCOPEPTIDE THAT INHIBITS THE SECRETION OF FOLLITROPIN BY THE PITUITARY GLAND. ON THE CT:ER HAND ACTIVIN ACTIVATES THE SECRETION OF FOLLITROPIN.

-:- SUBGNIT: DIMERIC, LINKED BY ONE OR MORE DISULFIDE BONDS.
INHIBIN A IS A DIMER OF ALPHA AND BETA-A.

-:- INHIBIN B IS A DIMER OF ALPHA AND BETA-B.

-:- TISSUE SPECIFICITY: ALPHA- AND BETA-B.

-:- PREDOMINANT FORMS FOUND IN RAT TESTIS.

-:- SIMILARITY: BELONGS TO THE TGF-BETA FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=90190649; PubMed=2628729;
Feng Z.-M., Li Y.-P., Chen C.-L.C.;
"Analysis of the 5'-flanking regions of rat inhibin alpha- and
beta-B-subunit genes suggests two different regulatory mechanicams.";
Mol. Endocrinol. 3:1914-1925(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Complementary deoxyribonucleic acid (CDNA) cloning and DNA requence
                                     Contraceptive; Hormone; Glycoprotein; Signal. POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A. MEDLINE-91042598; MEDLINE-91042598; PubMed=3153478; Modruff T.K., Mennier H., Jones P.B.C., Hsueh A.J.W., Mayo K.E.; Woodruff T.K., molecular cloning of alpha- and beta-subunit complementary deoxyribonucleic acids and expression in the ovary Mol. Endocrinol. 1:561-568(1987).
                                                                                               INHIBIN ALPHA CHAIN.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (CLCNAC. . . ) (POTENIAL.)
N-LINKED (GLCNAC. . . ) (POTENIAL.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chórdata; Craniata; Vertebrata; Euteleosteninini
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinac Pul
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A. MEDLINE=90331931; PubMed=2484214; Esch F.S., Shimasaki S., Cooksey K., Mercado M., Mason A.J., Ying S.Y., Ueno N., Ling N.;
                                                                                                                                                                                                                                                                                                                                                                 DB 1; Length 366;
                                                                                                                                                                                                                                         A -> R (IN REF. 2).
V -> G (IN REF. 2 AND 3).
T -> R (IN REF. 2 AND 3).
BF3851B722FE0011 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-AUG-1990 (Rel. 15, Created)
01-AUG-1990 (Rel. 15, Last sequence update)
01-NOV-1995 (Rel. 32, Last annotation update)
INHIBIN ALPHA CHAIN PRECURSOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      366 AA.
                                                                                                                                                                                                                                                                                                                                                                                                       1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                    Pred. No. 25;
                                                                                                                                                                                                                                                                                                                                                                 Score 31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              analysis of rat ovarian inhibins."; Mol. Endocrinol. 1:388-396(1987).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRT;
                    TGF_BETA_1; 1.
                                                                                                                                                                                                                                                                                                       39536 MW;
                                                                                                                                                                                                                                                                                                                                                               81.6%;
71.4%;
  PRINTS; PR00669; INHIBINA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STANDARD;
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                                                                             233
366
328
328
365
327
147
269
171
                    PROSITE; PS00250; TGF_E
Follitropin inhibitor;
SIGNAL 1 20
                                                                                                                                                                                                                                                                                                   366 AA;
                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     :||| ||
176 RWAVLHL 182
                                                                                                                                                                                                                                                                                                                                                                                                                                              2 QWAVXHL 8
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                                                                                                                      DISULFID
                                                                                                                                         DISULFID
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                                                                                                                                                                                                     CARBOHYD
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                                                                                                                                                                                                                                                                                  CONFLICT
                                                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IHA_RAT
                                                                               PROPEP
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                                                                                                   CHAIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          between the Swiss Institute of Bioinformatics and the EMBL outstation-
the European Bioinformatics Institute. There are no restrictions on its
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or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Differentiation 44:62-68(1990).

-i- FUNCTION: INHIBIN IS A GONADAL GLYCOPEPTIDE THAT INHIBITS THE SECRETION OF FOLLITROPIN BY THE PITUITARY GLAND. ON THE OTHER HAND ACTIVIN ACTIVATES THE SECRETION OF FOLLITROPIN.

-i- SUBUNIT: DIMERIC, LINKED BY ONE OR MORE DISULFIDE BONDS.
INHIBIN A IS A DIMER OF ALPHA AND BETA-A.
INHIBIN B IS A DIMER OF ALPHA AND BETA-B.
                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
MEDLINE-93321614; PubMed-8330535;
Albano P.M., Groome N., Smith J.C.;
Activins are expressed in preimplantation mouse embryos and in ES and EC cells and are regulated on their differentiation.";
Development 117:711-723(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
MEDLINE=92337610; Pubwed=1632772;
Su J.G.W., Hsueh A.J.W.;
Characterization of mouse inhibin alpha gene and its promoter.";
Biochem. Biophys. Res. Commun. 186:293-300(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRAIN=SWISS WEBSTER;
MEDLINE-91071531; PubMed=2253839;
Tone S., Katoh Y., Fujimoto H., Togashi S., Yanazawa M., Kato Y.,
Higashinakagawa T.;
"Expression of inhibin alpha-subunit gene during mouse gametogenesis.";
                                                                                                 0;
                                                          Length 364;
                                                                                                 1; Indels
364 AA; 39160 MW; BB595B9B7958A168 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SIMILARITY: BELONGS TO THE TGF-BETA FAMILY.
                                                            ij
                                                                                                                                                                                                                                                                                                   004997;
01-FEB-1994 (Rel. 28, Created)
01-FEB-1994 (Rel. 28, Last sequence update)
10-CGT-1996 (Rel. 34, Last annotation update)
INHIBIN ALPHA CHAIN PRECURSOR.
                                                        Score 31; DB J
Pred. No. 25;
1; Mismatches
                                                                                                                                                                                                                                                                                PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; M95525; AAA39314.1; -.
EMBL; M95526; AAA39314.1; JOINED.
                                                          81.68;
71.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE OF 49-366 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ZMBL; X69618; CAA49324.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro; IPR002405; -.
Pfam; PF00019; TGF-beta; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL, X55957; CAA39424.1;
PIR; S31439; S31439.
PIR; JC1106; JC1106.
                                                                                               Conservative
                                                                                                                                                                                                                                                                                  STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MGD; MGI:96569; Inha.
InterPro; IPR001839; -.
InterPro; IPR002405; -.
                                                                                                                                                                                                                                                                                                                                                                                                                          Mus musculus (Mouse)
                                   Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=10090;
                                                                                                                                                                :||| ||
173 RWAVLHL 179
                                                                                                                                       2 QWAVXHL 8
                                                                                                                                                                                                                                                                                IHA_MOUSE
  SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                InterPro; IPR001839; ...
InterPro; IPR001839; ...
InterPro; IPR001839; ...
Pfam; PR0019; TGF-beta; 1.
PRINTS; PR00659; INHIBINA.
PROSITE; PS00250; TGF_BETA_1; 1.
Follitropin inhibitor; Contraceptive; Hormone; Glycoprotein; Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      from G1 to S phase.";
Science 26:1:551-1557(1993).
-1- FUNCTION: PART OF A COMPLEX INVOLVED IN CELL-CYCLE-DEPENDENT
-1- FUNCTION: PART OF A COMPLEX INVOLVED IN CELL-CYCLE-DEPENDENT
TRANSCRIPTION. SWI4 AND SWI6 ARE REQUIRED FOR FORMATION OF THE
CELL-CYCLE BOX FACTOR-DNA COMPLEX. THE REPEATED ELEMENT IN THE
UPSTREAM REGION OF HO (5'-CACGAAAA-3') IS CALLED THE CELL CYCLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -!- SUBDIVIT: MBF CONTAINS SWI6 AND MBP1; SBF CONTAINS SWI6 AND SWI4-!- SIMILARITY: STRONG, TO S.POMBE CDC10.
-!- SIMILARITY: CONTAINS 2 ANK REPEATS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-FEB-1995 (Rel. 31, Created)
01-FEB-1995 (Rel. 31, Last sequence update)
01-OCT-2000 (Rel. 40, Last annotation update)
REGULATORY PROTEIN SWIG (CELL-CYCLE BOX FACTOR, CHAIN SWIG) (TRANSACTING ACTIVATOR OF HO ENDONUCLEASE GENE) (MBF SUBUNIT P90).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE-93383264; PubMed-8372350;
Koch C., Moll T., Neuberg M., Ahorn H., Nasmyth K.;
"A role for the transcription factors Mbpl and Swi4 in progression
                                                                                                                                                                                                                                                                                                                                                                                                                                                            N-LINKED (GLCNAC. . .) (POTENTIAL).
N-LINKED (GLCNAC. . .) (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Kluyveromyces lactis (Yeast).
Bukaryota; Wagota Ascomycota; Saccharomycetes;
Saccharomycetales; Saccharomycetaces;
NCBI_TaxID=28985;
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Pred. No. 25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                            INTERCHAIN (BY SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LINKED (GLCNAC. . .) (PO
327A233B9FEDFCDC CRC64;
                                                                                                                                                                                                                                                                                                                                                                        INHIBIN ALPHA CHAIN.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    769 AA
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                                                                                                                                                                                                                                                                                                                                          POTENTIAL.
                                                                                                                                  EMBL; M32755; AAA41437.1; -.
EMBL; M32754; AAA41437.1; JOINED.
EMBL; M36453; AAA41435.1; -.
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71.48;
                                                                                                                                                                   EMBL; M36453; AAA41435.1;
PIR; A40905; A40905.
PIR; A41398; A41398.
PIR; A40056; A40056.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               39496
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Best Local Similarity 71.4.
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366
328
363
365
327
147
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176 RWAVLHL 182
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366 A
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SWI6_KLULA
ID SWI6_KLULA
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                                                                                                                                                                                                                                                                               ·;
                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conlon J.M., O'Harte F., Vaudry H.;
"Primary structures of the bombesin-like neuropeptides in trog brain show that bombesin is not the amphibian gastrin-releasing peptide.";
Blochem. Blochys. Res. Commun. 178:226-530(1991).
-1- SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleus, 11, Amphibia; Batrachia; Anura; Neobatrachia; Ranoidea; Ranidae; F. 11.
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                                                                                                 PIR; S36b5/; S2000...
DiterPro: IPR002110, -.
Pfam; PF00003; ank; 2.
PROSITE; PS50088; ANK_REPEAT; 2.
PROSITE; PS50297; ANK_REP_REGION; 2.
Transcription regulation; DNN-binding; ANK repeat; Repeat.
                                                                                                                                                                                                                                                     Length 769;
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                                                                                                                                                                                                                                                                               2; Indels
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                                                                                                                                                                                                            E3A5328B4DA084FB CRC64;
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Pred. No. 1.3;
0; Mismatches
                                                                                                                                                                                                                                                   Score 31; DB 1;
Pred. No. 51;
                                                                                                                                                                                                                                                                                                                                                                                                                                   01-NOV-1991 (Rel. 20, Created)
01-NOV-1991 (Rel. 20, Last sequence update) *
01-APR-1993 (Rel. 25, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Rana ridibunda (Laughing frog) (Marsh frog).
                                                                                                                                                                                                                                                                                                                                                                                                         10 AA.
                                                                                                                                                                                                                                                                               1; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=91315477; PubMed=1859413;
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                                                                                                                                                                                                           86669 MW;
                                                                                                                                                                                                                                                   81.6%;
57.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    78.9%;
83.3%;
                                                                                 EMBL; X74292; CAA52345.1; -. PIR; S36657; S36657.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              10 10
10 AA; 1094 MW;
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Best Local Similarity 5/...
                                                                                                                                                                                                                                                                                                                                                                                                          STANDARD;
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                          2 QWAVXHL 8
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WAVGHL
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P23260;
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SEQUENCE
                                                                                                                                                                                                            SEQUENCE
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GRP_RANRI
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GenCore version 4.5
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 protein search, using sw model OM protein

October 25, 2001, 11:25:22 ; Search time 76.25 Seconds (without alignments) 7.992 Million cell updates/sec Run on:

US-09-630-333-11 38

1 XQWAVXHL 8 Perfect score: Sequence: **BLOSUM62** Scoring table:

Gapop 10.0 , Gapext 0.5

Searched:

al number of hits satisfying chosen parameters:

219241 seqs, 76174552 residues

219241

length: 0 length: 2000000000 sed Minimum DB Maximum DB Maximum

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

PIR_68:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

		ď			SUMMARIES	
Result No.	Score	Query Match	Length	DB	ID	Description
	35	92.1	14	-	RSHD	hombasin - firs-ha
179	35		107	-	BSTDY	pr
m	35	ς.	119	7	A39261	
4	32	4	174	7	T45665	
5	32	84.2	353	7	T34312	
9	31	81.6	6	7	807204	⋖,
7	31		13	~	A60409	bombesin-like pept
89	31		82	7	B28945	ranatensin precurs
6	31	•	95	7	н83378	hypothetical prote
10	31	•	183	7	A75605	
11	31	81.6	232	7	S32963	
12	31	•	256	7	T48787	
13	31	٠	309	7	S41427	cysteine proteinas
14	31	81.6	325	7	F82558	lipopolysaccharide
15	31	•	357	7	T17027	MYB-related transc
16	31		360	Н	A25732	
17	31	81.6	364	٦	WFPGA	inhibin alpha chai
18	31	81.6	366	H	JC1106	inhibin alpha chai
19	31	81.6	366	Н	A40056	inhibin alpha chai
20	31	81.6	703	7	T48559	probable receptor-
21	31	ή.	769	7	S36657	SWI6 protein - yea
22	30	ъ.	10	7	PQ0177	neuromedin C - lau
23	30	78.9	10	7	A60647	neuromedin C - bov
24	30	ω.	25	7	806263	gastrin-releasing
25	30	ω.	27	7	RHPGA	gastrin-releasing
26	30	·. &	27	Т	RHGPGA	gastrin-releasing
27	30	œ.	27	Н	RHCHA	gastrin-releasing
28	30	78.9	120	~	A47201	bombesinlike pepti
29	30	78.9	134	7	147010	gastrin-releasing

part 1 sag	gastrin leasing	gastrin i leasing	qustrin-releasing	hypothelical prof	MADS be r prot n -	conserved hyperint	hypotherinal prote.	conserved hyper het	conserver hyporhet	inhibir. · pha chai	hypothal, al profe	glucan er-to-1,3-be	GTPaso action	cytochi we P450 (E	hypoth treal profe
A26182	A40922	B26182	A42437	876918	T07902	A69060	B82631	H82541	H83298	A24248	T43049	T50645	S56816	T10896	S76521
7	~	Н	7	ď	~	~	7	7	7	H	7	~	~	N	,
138	147	148	155	170	250	252	283	311	318	366	375	453	458	505	691
8.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9
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	30	30	30	30	30	ĕ	m	٣	(*)	m	٣	e	e	m	m

ALIGNMENTS

bombesin - fire-bellied toad

Cipecies: Bombina bombina (fire-bellied toad)
Cipace: 13-Jul-1981 #sequence_revision 13-Jul-1981 #text_change .v full 11/10
Cipacession: A01564
Arch: Blochem. Blophys. 148, 443-446, 1972
Cipacession: A01564
Arch: Blochem. Available And Andrew And

Gaps . C Length 14; 1; Indels Score 35; DB 1; Pred. No. 0.33; 0; Mismatches 92.1%; 85.7%; Query Match 92.1 Best Local Similarity 85.7 Matches 6; Conservative

ċ

7 QWAVGHL 13 2 QWAVXHL 8 qq δy

RESULT

bombesin precursor - yellow-bellied toad

By mit, i

1.10-2003

two analogons a C; Species: Bombina variegata (yellow-bellied toad)
C; Species: Bombina variegata (yellow-bellied toad)
C; Decession: S09095; B01564, A01564
R; Richter, K.; Egger, R.; Kreil, G.
FEBS Lett. 262, 353-355, 1990
A; Title: Molecular cloning of a cDNA encoding the bombesin precurson in some A; Reference number: S09095; MUID:90242964
A; Accession: S09095
A; Molecule type: mRNA
A; Residues: 1-107 CRIC
R; Anastasi, A.; Erspamer, V.; Bucci, M.
A; Residues: Biochem.
Biochem. Biochem.
A; Reference number: A01564; MUID:72163516
A; Title: Isolation and amino acid sequences of alytesin and bombow. Law, and A; Reference number: A01564; MUID:72163516
A; Residues: 42-55 CANN>
C; Superfamily: ranatensin
C; Keywords: amidated carboxyl end; cutaneous gland; hormone; neuropoptide pyte; F; 1-24/Domain: signal sequence #status predicted <PRO>
F; 25-41/Domain: amino-terminal propeptide #status predicted <PRO>

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C;Species: Pseudophryne guantherii
C;Species: Pseudophryne guantherii
C;Date: 30-dan-1993 #sequence_revision 30-Jan-1993 #text_change 18 Aug-2000
C;Accession: A60409
R;Simmaco, M.; Severini, C.; De Biase, D.; Barra, D.; Bossa, F.; Roberts, J.D.; Melch
Peptides 11, 299-304, 1990
A;Title: Six novel tachykinin- and bombesin-related peptides from the skin of the Aus
A;Reference number: A60409; MUID:90287814
A;Molecule type: protein
A;Molecule type: protein
A;Residues: 1-13 <SIM>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C;Accession: S07204
R;Anastasi, A.; Erspamer, V.; Endean, R.
Experientia 31, 510-511, 1975
A;Title: Aminoacid composition and sequence of litorin, a bombesin-like nonapeptide A;Reference number: S07204; MUID:75187011
                                                                                                                                                                                                                                                                                                    A;Accession: T34312
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Molecule type: DNA
A;Residues: 1-353 <LAT>
A;Cross-references: EMBL:U53332; PIDN:AAC71158.1; GSPDB:GN00020; CESP:F59G1
C;Genetics:
                                                                hypothetical protein F59G1.4 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 29-Oct-1999 #sequence_revision 29-Oct-1999 #text_change 21 Jan-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C;Species: Litoria aurea
C;Date: 12-Feb-1993 #sequence_revision 12-Mar-1993 #text_change 18-Ang-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Molecule type: protein
A; Residues: 1-9 <ANA>
C; Superfamily: gastrin-releasing peptide
C; Keywords: amidated carboxyl end; neuropeptide; pyroglutamic acid
F;1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
F;9/Modified site: amidated carboxyl end (Met) #status experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Map position: 2
A;Introns: 23/1; 47/2; 83/3; 114/3; 151/1; 187/2; 229/3; 257/3; 316/1
C;Superfamily: Caenorhabditis elegans hypothetical protein F59G1.4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         bombesin-like peptide L - frog (Pseudophryne guentheri)
                                                                                                                                                                                       R;Latreille, P. submitted to the EMBL Data Library, April 1996 submitted to the EMBL Data Library, April 1996 A;Description: The sequence of C. elegans cosmid F59Gl. A;Reference number: 221504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ouery Match

84.2%; Score 32; DB

Best Local Similarity 71.4%; Pred. No. 33;

Matches 5; Conservative 1; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      201 EWAVNHL 207
                                                                                                                                                           C; Accession: T34312
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 QWAVXH 7
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te: 18-Oct-1991 #sequence_revision 18-Oct-1991 #text_change 24-Sep-1999

te: 18-Oct-1991 #sequence_revision 18-Oct-1991 #text_change 24-Sep-1999

RYSpindel, E.R.; Gibson, B.W.; Reeve Jr., J.R.; Kelly, M.

Proc. Natl. Acad. Sci. U.S.A. 87, 9813-9817, 1990

A.Title: Cloning of CDNAs encoding amphibian bombesin: evidence for the relationship bet

A.Reference number: A39261, MUID:91088602

A.Statuus: preliminary

A.Molecule type: mRNA

A.Residues: 1-119 <SPI>

A.Rossidues: 1-119 <SPI>

A.Rossidues: 1-119 <SPI>

C.Superfamily: ranatensin

C.Superfamily: ranatensin
F;42-55/Product: bombesin #status experimental <MAT>
F;56-107/Domain: carboxyl-terminal propeptide #status predicted <CPT>
F;42/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status experimen F;55/Modified site: amidated carboxyl end (Met) (amide in mature form from following gly
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We Angelo, M.; Vezzi, A.; Modesto, D.; Pigazzi, M.; Valle, G.; Mewes, H.W.; Lemcke, K.; Angelo, M.; Vezzi, A.; Modesto, D.; Pigazzi, M.; Valle, G.; Mewes, H.W.; Lemcke, K.; M.; Angelo, M.; Vezzi, A.; Modesto, D.; Pigazzi, M.; Valle, G.; Mewes, H.W.; Lemcke, K.; A.; Reference number: Z23011

A.; Reference number: Z23011

A.; Accession: T45665

A.; Status: preliminary

A.; Residues: 1-174 < DAN>
A.; Residues: 1-174 < DAN>
A.; Residues: 1-174 < DAN>
A.; Residues: Louitivar Columbia; BAC clone F14P22
C.; Genetics: A.; Map Position: 3
A.; Map Position: 3
A.; Map Position: 3
A.; Note: F14P22.40
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C;Species: Arabidopsis thaliana (mouse-ear cress)
Tate: 04-Feb_2000 #sequence_revision 04-Feb-2000 #text_change 04-Feb-2000
                                                                                                                                                                                                                                                Gaps
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0
                                                                                                                                                                                92.1%; Score 35; DB 1; Length 107; 85.7%; Pred. No. 2.5;
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                                                                                                                                                                                                                                             1; Indels
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Pred. No. 17;
1; Mismatches
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71.4%;
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Best Local Similarity
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Matches 6; Conserv
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48 QWAVGHL 54
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51 QWAVGHL 57
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hypothetical protein YBR261c - yeast (Saccharomyces cerevisiae)
N;Alternate names: hypothetical protein YBR1729
C;Species: Saccharomyces cerevisiae
C;Date: 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_change 28-Jul-2000
C;Accession: 332633, 346142
R;Doignon, F: Biteau, N.; Crouzet, M.; Aigle, M.
Yeast 9, 189-199, 1993
A;Title: The complete sequence of a 19,482 bp segment located on the right aim of chr A;Reference number: $29348; MUID:93220397
A;Accession: $32963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Residues: 1-183 <WHI>
A;Cross-references: GB:AE001862; GB:AE001825; NID:g6460468; PIDN:AAH: 366.1; PID:y646
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                                                                 hypothetical protein - Deinococcus radiodurans (strain R1)
C; Species: Deinococcus radiodurans
C; Species: Deinococcus radiodurans
C; Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 28-Jul-2000
C; Accession: A75605
R;White, 0.; Eisen, J.A.; Heidelberg, J.F.; Hickey, E.K.; Peterson, .D.; Dodson on the standard of the sequence of the radioration of the radiora
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A; Reference number: $45940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           sdri
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C;Superfamily: Deinococcus radiodurans hypothetical protein DRA0103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 232;
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C;Superfamily: Neurospora crassa hypothetical protein 13E11.350
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35;
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Pred. No. 35;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 31; DB
Pred. No. 28;
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71.48;
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71.4%;
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Best Local Similarity 71...
5, Conservative
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Best Local Similarity 71.4
Matches 5; Conservative
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A; Residues: 1-232 <AIG>
                                                                                                                                                                                                                                                                                                                                                                                                  A; Accession: A75605
A; Status: preliminary
A; Molecule type: DNA
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49 RWAVFHL 55
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K.; Lim,
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A;Accession: H83378
A;Cession: H83378
A;Cession: H83378
A;Cession: H83378
A;Residues: preliminary
A;Residues: 1-95 <STO>
A;Coss-references: GB:AE004641; GB:AE004091; NID:g9948150; PIDN:AAG05531.1; GSPDB:GN001
A;Experimental source: strain PAO1
C;Genetics:
A;Gene: PA2143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Trane, I.M.; Naylor, S.L.; Helin-Davis, D.; Chin, W.W.; Spindel, E.R.
J. Biol. Chem. 263, 13317-13323, 1988
A.Title: Molecular cloning of cDNAs encoding the human bombesin-like peptide neuromedin A; Reference number: A92667; MUID:88330837
A.Accession: B28945
A; Molecule type: mRNA
A; Residues: 1-82 KRA>
A; Residues: 1-82 KRA>
A; Residues: 1-82 KRA>
A; Cross-references: GB:M21552; GB:J03948; NID:g213693; PIDN:AAA49533.1; PID:g213694
C; Superfamily: ranatensin
C; Keywords: neuropeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           P.; Hickey,
A.; Larbig,
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C; Superfamily: unassigned animal peptides c; Superfamily: unassigned animal peptides c; Seywords: amidated carboxyl end; hormone; neuropeptide; pyroglutamic acid (F;1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental F;13/Modified site: amidated carboxyl end (Met) #status experimental
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C.Date: 15-Sep-2000 #sequence_revision 15-Sep-2000 #text_change 31-Dec-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C:Species: Rana pipiens (northern leopard frog)
C-Date: 30-Jun-1989 #sequence_revision 30-Jun-1989 #text_change 24-Sep-1999
ccession: B28945
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C.Accession: H83378
C.Accession: A.D.; Mizoguchi, S.D.; Warrener, Yun, Y.; Brody, L.L.; Coulter, S.N.; Folger, K.R.; Kas, John, M.V.
Nature 406, 959-964, 2000
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Pred. No. 15;
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Pred. No. 13;
0; Mismatches
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71.48;
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83.3%;
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51 QWAVGH 56
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Best Local Similarity 71.4%;
Matches 5; Conservative
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Best Local Similarity
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C;Species: Neurospora crassa
C;Date: 05-May-2000 #sequence_revision 05-May-2000 #text_change 28-Jul-2000
C;Date: 05-May-2000 #sequence_revision 05-May-2000 #text_change 28-Jul-2000
R;Accession: T48787
R;Schulte, U.; Aign, V.; Hoheisel, J.; Brandt, P.; Fartmann, B.; Holland, R.; Nyakatura, submitted to the Protein Sequence Database, April 2000
R;Reference number: Z24541
A;Reference number: Z2454
A;Accession: T48787
A;Reference: T48787
A;Residues: 1-Z56 < SCHPA
A;Residues: 1-Z56 < SCHPA
A;Residues: 1-Z56 < SCHPA
A;Residues: 1-Z56 < SCHPA
A;Cross-references: EMBL:Al353820; GSPDB:GN00112; NCSP:13E11.350
A;Experimental source: cosmid contig 13E11; strain 74
C;Genetics:
C;Genetics:
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F02558
C. Popolysaccharide core biosynthesis protein XF2434 [imported] - Xylella fastidiosa (str. C. Species: Xylella fastidiosa (str. C. Species: Xylella fastidiosa (str. C. Date: 18-Aug-2000 #sequence_revision 20-Aug-2000 #text_change 20-Aug-2000 C. Accession: R82558
R. anonymous, The Xylella fastidiosa Consortium of the Organization for Nucleotide Sequen Nature 406, 151-157, 2000
A.Title: The genome sequence of the plant pathogen Xylella fastidiosa.
A. Note: for a complete list of authors see reference number A59328 below A. Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S41427
Cysteine proteinase (EC 3.4.22.-) CPI precursor - Trichomonas vaginalis
Cysteine proteinase (EC 3.4.22.-) CPI precursor - Trichomonas vaginalis
C;Species: Trichomonas vaginalis
C;Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 04-Feb-2000
C;Accession: S41427
R;Mallinson, DJ.
Submitted to the EMEL Data Library, January 1994
A;Reference number: S41425
A;Accession: S41427
A;Molecule type: mRNA
A;Residues: 1-309 cAAL>
A;Cross references: EMBL:X77218; NID:9452291; PIDN:CAA54435.1; PID:9452292
A;Experimental source: G3
C;Genetics:
A;Gene: CP1
C;Superfamily: papain
C;Keywords: cysteine proteinase; hydrolase
C;Keywords: cysteine proteinase; hydrolase
C;Keywords: cysteine proteinase; hydrolase
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Keywords: cysteine proteinase; hydrolase
1-89/Domain: signal sequence #status predicted <SIG>
0-309/Product: cysteine proteinase CPI #status predicted <MAT>
4,254,274/Active site: Cys, His, Asn #status predicted
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Superfamily: Neurospora crassa hypothetical protein 13E11.350
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Matches 5; Conservative
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MYB-related transcription factor - garden snapdragon C.Species: Antirthinum majus (garden snapdragon) C.Species: Antirthinum majus (garden snapdragon) C.Species: Antirthinum majus (garden snapdragon) C.Species: 17027 Requence_revision 15-oct-1999 #text_change _1-Jul-2000 C.Speciession: T17027 Regulari, H.R.; Oliver, I.R.; Hudson, A.Cellari, T.Selvadurai, H.R.; Oliver, I.R.; Hudson, A.Cellari, T.Selvadurai, H.R.; Oliver, I.R.; Hudson, A.Cellari, T.P. PHANTASTICA gene encodes a MYB transcription factor involved in growth a A.Reference number: 218662; MUID: 98292176 A.Status: preliminary; translated from GB/EMBL/DDBJ A.Status: preliminary; translated from GB/EMBL/DDBJ A.Status: 1-357 -WAL) A.Residues: 1-357 -WAL) A.Resi
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C;Superfamily: unassigned myb DNA-binding repeat proteins; myb DNA-binding repeat hom
C;Keywords: transcription factor
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Compugen Ltd.
 GenCore version
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October 25, 2001, 11:23:57; Search time 64.17 Seconds (without alignments) 2.567 Million cell updates/sec
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OM protein - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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Perfect score:
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al number of hits satisfying chosen parameters:

197339

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries length: 0 length: 2000000000 Minimum DB seq Maximum DB seq

Issued_Patents_AA:* Database

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/cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*
/cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

		Description	Sequence 12, Appl	521795	Patent No. 5217955	Patent No. 5217955	No. 521795	Patent No. 5217955	No. 521795	Sequence 11, Appl	Sequence 9, Appli		No.	Sequence 1, Appli	7	4,	S,	6		12,	14,	15,	17,		22,	23,	24,	25,	26,
SUMMARIES		ΩI	US-08-168-390-12	217955-3	-3	5217955-13	217955	217955-	5217955-22	US-08-168-390-11	US-08-337-127-9	5217955-32	5217955-34	US-07-619-747B-1	US-07-619-747B-2	-01-	-07	US-07-619-747B-9	-07-619	-07-619-7	-07-619-747B-1	-07-619-747B-1	-07-619-747B-1	-07-619-747B-1		-07-619-7	US-07-619-747B-24	-07-619-747B-	US-07-619-747B-26
		Match Length DB	8			9 6									9 1	9 1	9 1	9 1	9 1	9 1	9	9		9	9 1	9 1	9 1	9 1	9 1
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		Score	36	36	36	36	36	36	36	35	35	35	35	35	35	35	35	35	35	35	35	35	35	32	35	35	35	35	35
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Sednence	Sequence	Sequence	Sequence	Sednence	Sequence	Sequen	Sequence	Sequence	Sequenc	Sequence	Sequence	Sequence	Sednor	Seque.	Sednem	Sequences	Sequence
US-07-619-747B-27	US-07-619-747B-28	US-07-619-747B-29	US-07-619-747B-30	US-07-619-747B-31	US-07-619-747B-32	US-07-619-747B-33	US-07-619-747B-34	US-07-619-747B-35	US-07-619-747B-36	US-07-619-747B-37	US-07-619-747B-38	US-07-619-747B-39	US-07-619-747B-40	US-08-031-325A-37	US-08-263-905-4	US-08-263-905-5	US-08-263-905-6
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35	35	35	32	32	35	35	35	35	35	35	35	35	35	35	35	35	35
28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

```
APPLICANT: Knight, Martha
APPLICANT: Takahashi, Kazayuki
APPLICANT: Takahashing Peptide Antagonists
NUMBER OF SEQUENCES: 16
CORRESPONDENCE ADDRESS:
ADDRESSE: Sterne, Kessler, Goldstein & Fox
STREDT: 1100 New York Avenue, Suite 600
CITY: Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note= "The amino-terminal residue comprises one of several chemical end caps."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note= "The alanine at position is dextrorotatory alanine."
                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:

COMPUTER READABLE FORM:

COMPUTER: ISH PC compatible

COMPUTER: ISH PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: PatentIn Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/168,390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0871.0040001
                      ; Sequence 12, Application US/08168390
; Patent No. 5620955
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATTORNEY AGENT INFORMATION:
NAME: Goldstein, Jorge A.
REGISTRATION NUMBER: 29,021
REFERENCE/DOCKET NUMBER: 0871.
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 371-260
TELEX: 24636 SSK
INFORMATION FOR SEQ ID NO: 12:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURE:
NAME/KEY: Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME/KEY: Modified-site
LOCATION: 6
OTHER INFORMATION: /note
OTHER INFORMATION: is de
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OTHER INFORMATION:
OTHER INFORMATION:
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LENGTH: 8 amino
TYPE: amino acid
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                                                                                                                                                                                                                                                                                                                                            USA
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US-08-168-390-12
                                                                                                                                                                                                                                                                                                                                         COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURE:
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OWAVAHL 8
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5217955-14
;Patent No. 5217955
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5217955-15
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: aBOGDEN, ARTHUR E.; MOREAU, JACQUES-PIERRE APPLICANT: aBOGDEN, ARTHUR E.; MOREAU, JACQUES-PIERRE TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG OF BOMBESIN, GRP, LITORIN OR NEUROMEDIN NUMBER OF SEQUENCES: 42

CURRENT APPLICATION DATA:
APPLICATION NUMBER: 09-08/520,225
FILING DATE: 09-08/71990
FILING DATE: 10-08/1989
FILING DATE: 11-NOV-1989
FILING DATE: 15-SEP-1989
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                                    /note= "The carboxy-terminal
residue comprises an ethyl ester."
                                                                                                                                               1; Indels
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                                                                                                                94.7%; Score 36; DB 1; Length 8; 85.7%; Pred. No. 1.5e+05; ive 0; Mismatches 1; Indels
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85.7%; Pred. No. 1.5e+05;
iive 0; Mismatches 1;
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Pred. No. 1.5e+05;
0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION DATA:

APPLICATION UNBER: US/08/520,225
FILING DATE: 09-MAY-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 440,039
FILING DATE: 21-NOV-1989
APPLICATION NUMBER: 408,125
FILING DATE: 15-SEP-1989
FILING DATE: 15-SEP-1989
SEQ ID NO:35:
LENGTH: 8
5217955-35
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85.78;
Modified-site
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Best Local Similarity 85.7
Matches 6; Conservative
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        ; NAME/KEY: Modified
; LOCATION: 8
COTHER INFORMATION:
; OTHER INFORMATION:
US-08-168-390-12
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Best Local Similarity
Matches 6; Conserv
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Best Local Similarity
Matches 6; Conserv
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2 QWAVAHL 8
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5217955-35
;Patent No. 5217955
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      NAME/KEY:
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5217955-36
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RESULT 4
5217955-13
; PALECAL NO. 5217955
; PALECANT: aBGGDEN, ARTHUR E.; MOREAU, JACQUES-PIERRE
APPLICANT: aBGGDEN, ARTHUR E.; MOREAU, JACQUES-PIERRE
TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG
; OF BOMBESIN, GRP, LITORIN OR NEUROMEDIN
NUMBER OF SEQUENCES: 42
; CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/520,225
; FILING DATE: 09-MAY-1990
; RELICATION NUMBER: 440,039
; FILING DATE: 21-NOV-1989
; FILING DATE: 15-SEP-1989
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TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALY;
OF BOMBESIN, GRY. LITTORIN OR NEUROMEDIN
NUMBER OF SEQUENCES: 42
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/520,225
FILING DATE: 09-MAY-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 440,039
FILING DATE: 21-NOV-1989
FILING DATE: 11-SEP-1989
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APPLICANT: aBOGDEN, ARTHUR E.; MOREAU, JACQUES-PIERRE
TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG
OF BOMBESIN, GRP, LITORIN OR NEUROMEDIN
NUMBER OF SEQUENCES: 42
CURRENT APPLICATION DATA:
CURRENT APPLICATION NUMBER: 09-MAY-1990
PRIOR APPLICATION NUMBER: 409,039
FILING DATE: 21-NOV-1989
FILING DATE: 21-NOV-1989
APPLICATION NUMBER: 408,125
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85.7%;
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Best Local Similarity
..haq 6; Conserv?
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Best Local Similarity
Matches 6; Conserv
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FILING DATE: 12/09/88
APPLICATION NUMBER: 07/257,998
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APPLICANT: Takahashi, Kazayuki
APPLICANT: Chandrasekhar, Bhaskar
TITLE OF INVENTION: Bombesin/Gastrin Releasing Peptide Antagonists
NUMBER OF SEQUENCES: 16
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                   Factor No. 5217955
; Patent No. 5217955
; Patent No. 5217955
; Patent No. 5217955
; Patent No. 5217955
; TILLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG BOMBESIN, GRP, LITORIN OR NEUROMEDIN
NUMBER OF SEQUENCES: 42
; CURRENT APPLICATION DATA:
; APPLICATION DATA:
; APPLICATION DATA:
; APPLICATION NUMBER: 40,039
; FILING DATE: 21-NOV-1989
; FILING DATE: 15-SEP-1989
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0
                                                                                                            Score 36; DB 6; Length 9;
Pred. No. 1.5e+05;
0; Mismatches 1; Indels
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Pred. No. 1.5e+05;
0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE: Sterne, Kessler, Goldstein & Fox STREET: 1100 New York Avenue, Suite 600
CITY: Washington
STATE: 10.0
COUNTRY: UGA
21P: 20005
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/NS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
RILING DATE: Herewith
FILING DATE: Herewith
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 11, Application US/08168390 Patent No. 5620955 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTORNEY/AGENT INFORMATION:
NAME: Goldstein, Jorge A.
REGISTRATION NUMBER: 29,021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            94.7%;
85.7%;
                                                                                                              94.7%;
; FILING DATE: 15-SEP-1989
;SEQ ID NO:15:
; LENGTH: 9
                                                                                          Ouery Match
Best Local Similarity 85.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 94.7
Best Local Similarity 85.7
Matches 6; Conservative
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2 QWAVAHL 8
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comprises one of several chemical end caps."
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                              /note= "The carboxy-terminal residue comprises an ethyl ester.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY: Massac...
COUNTRY: U.S.A.
COUNTRY: U.S.A.
ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: 35" Diskette, 1.44 Mb
COMPUTER: IBM PS/2 Model 50Z or 55SX
COMPUTER: IBM PS/2 Model 50Z or 55SX
COMPUTER: IBM PS/2 Model 50Z or 55SX
CONFRAING SYSTEM: IBM P.C. DOS (Version 5.0)
SOFTWARE: WORDPERfect (Version 5.0)
CURRENT APPLICATION NUMBER: US/08/337,127
FILING DATE: US/08/31
APPLICATION NUMBER: 07/779,039
FILING DATE: 10/18/91
APPLICATION NUMBER: 07/397,169
FILING DATE: 03/30/90
APPLICATION NUMBER: 07/397,169
FILING DATE: 08/21/89
FILING DATE: 08/21/89
FILING DATE: 08/21/89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 35; DB 1; I
Pred. No. 1.5e+05;
0; Mismatches 1;
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Patent No. 5877277
GENERAL INFORMATION:
APPLICANT: COy, David H.
APPLICANT: Moreau, Jacques-Pierre
APPLICANT: Kim, Sun H.
TITLE OF INVENTION: OCTAPEPTIDE BOMBESIN
TITLE OF INVENTION: ANALOGS
NUMBER OF SEQUENCES: 11
CORRESPONDENCE ADDRESS:
     0871.0040001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: 07/317,941
FILING DATE: 03/02/89
AAPLICATION NUMBER: 07/282,328
FILING DATE: 12/09/88
REFERENCE/DOCKET NUMBER: 0871
TPELECHANDICATION INFORMATION:
TELEPHONE: (202) 371-2600
TELEFAX: (202) 371-2540
TELEFAX: 246653 SSK
INFORMATION FOR SEQ ID NO: 11: SEQUENCE CHARACTERISTICS:
LENGTH: 8 amino acids
TYPE: amino acids
TYPE: amino acids
TYPE: amino acids
TYPE: amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADDRESSEE: Fish & Richardson STREET: 225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                           NAME/KEY: Modified-site
| LOCATION: 8 | LOCATION: 0 | OTHER INFORMATION: resid
| US-08-168-390-11
                                                                                                                                                                                                                                                                       NAME/KEY: Modified-site LOCATION: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity 85.7
Matches 6; Conservative
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APPLICANT: aBOGDEN, ARTHUR E.; MOREAU, JACQUES-PIERRE; TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG; OF BOMBESIN, GRP, LITORIN OR NEUROMEDIN
NUMBER OF SEQUENCES: 42
                                                                                                                                                                                                                                                                                                                                                                                  Score 35; DB 6; Length 8;
Pred. No. 1.5e+05;
0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Cai, Ren Zhi
APPLICANT: Schally, Andrew V.,
TITLE OF INVENTION: No. 5244883apeptide Bombesin
TITLE OF INVENTION: Antagonists
UNMBER OF SEQUENCES: 40
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE:
ATTORNEY AGENT INFORMATION:
NAME: Behr, Omri M.
REGISTRATION NUMBER: 22,940
REFERENCE/DOCKET NUMBER: SHAL3.0-011
TELECOMMUNICATION INFORMATION:
TELEFHONE: (908,494-5240
TELEFAX: 1-908-494-0428
                                                                                                    CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/520,225
FILING DATE: 09-MAY-1990
PRIOR APPLICATION DATA:

APPLICATION NUMBER: 440,039
FILING DATE: 21-NOV-1989
APPLICATION NUMBER: 408,125
FILING DATE: 15-SEP-1989
SEQ ID NO:34:
LENGTH: 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDIUM TYPE: 360K Diskette
COMPUTER: 1BM PC
OPERATING SYSTEM: DOS 5.0
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE: Dr. Andrew V. Schally
STREET: 5025 Kawanne Avenue
CITY: Metairie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: No. 5244883e
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 1, Application US/07619747B; Patent No. 5244883; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                  92.1%;
85.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEX: 511642 BEPATEDIN
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                  Query Match 92.1
Best Local Similarity 85.7
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
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STRANDEDNESS: Unknowr
TOPOLOGY: Unknown
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM: MEDIUM TYPE: 360K Di
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE: N/A APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STATE: Louisiana
COUNTRY: USA
ZIP: 70002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ||||| ||
2 QWAVGHL 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 QWAVXHL 8
    ;Patent No. 5217955
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US-07-619-747B-1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The sequence contains at position 1 a pyroglutamate, rather than a glutamate, and has an methylester C-terminus (i.e., COyOCH3), rather than a carboxyl C-terminus (i.e., COYOH).
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5217955-32
Fatent No. 5217955
Tatent No. 5217955
TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG OF BOMBESIN, GRP, LITORIN OR NEUROMEDIN
NUMBER OF SEQUENCES: 42
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/520,225
FILING DATE: 09-MAY-1990
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              92.1%; Score 35; DB 2; Length 8; 85.7%; Pred. No. 1.5e+05; ive 0; Mismatches 1; Indels
  FILING DATE: AV. T. V. APPLICATION NUMBER: 07/248,771
FILING DATE: 09/23/88
APPLICATION NUMBER: 07/207,759
FILING DATE: 06/16/88
APPLICATION NUMBER: 07/204,171
FILING DATE: 06/08/88
APPLICATION NUMBER: 07/173,311
FILING DATE: 06/08/88
APPLICATION NUMBER: 07/100,571
FILING DATE: 09/24/87
ATTORNEY/AGENT INFORMATION:
NAME: Clark, Paul T.
REGISTRATION NUMBER: 30,162
REFERENCE/DOCKET NUMBER: ....00537/00900D
                                                                                                                                                                                                                                                                                        REFERENCE/JOCKET NUMBER: 00
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 542-5070
TELEFAX: (617) 542-8906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: 440,039
FILING DATE: 21-NOV-1989
APPLICATION NUMBER: 408,125
FILING DATE: 15-SEP-1989
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Best Local Similarity 85...
6. Conservative
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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Matches 6; Conservative
10/14/88
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CTHER INFORMATION:
COTHER INFORMATION:
US-08-337-127-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     amino acid
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TOPOLOGY: linear
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2 QWAVGHL 8
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5217955-32
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92.1%; Score 35; DB 1; Length 9; 85.7%; Pred. No. 1.5e+05; ive 0; Mismatches 1; Indels
                                                                                                                                                      GENERAL INFORMATION:
APPLICANT: Cai, Ren Zhi
APPLICANT: Schally, Andrew V.,
TITLE OF INVENTION: No. 5244883apeptide Bombesin
TITLE OF INVENTION: Antagonists
NUMBER OF SEQUENCES: 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Position 1 is 5F-D-Trp
Position 8 is a reduced
isostere of named aminoacid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE: WP 5.11
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
CLASSIFICATION: 514
PRIOR APPLICATION NUMBER: NO. 5244883e
FILING DATE: NA
APPLICATION NUMBER: NO. 5244883e
FILING DATE: NA
APPLICATION NUMBER: FILING DATE:
FILING DATE: PILING DATE:
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE/DOCKET NUMBER: SHAL3.0-011
TELECOMONICATION INFORMATION:
TELEPHONE: (908) 494-5240
TELEFAX: 1-908-494-0428
TELEFAX: 511642 BEPATEDIN
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                               E: Dr. Andrew V. Schally
5025 Kawanne Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 5, Application US/07619747B Patent No. 5244883 GENERAL INFORMATION: APPLICANT: Cai, Ren Zhi APPLICANT: Schally, Andrew V.,
                                                                                                                    Sequence 4, Application US/07619747B Patent No. 5244883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME: Behr, Omri M.
REGISTRATION NUMBER: 22,940
                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDIUM TYPE: 360k Diskette
COMPUTER: IBM PC
OPERATING SYSTEM: DOS 5.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 85...
6. Conservative
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MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                           CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Andres
STREET: 5025 Kawanne
                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM: MEDIUM TYPE: 360K DI
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OTHER INFORMATION:
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: Louisiana
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2 QWAVGHL 8
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US-07-619-747B-5
                                                                                               US-07-619-747B-4
                                                                                                                                                                                                                                                                                                                                                                             COUNTRY:
                                                                                                                                                                                                                                                                                                                                      CITY: N
STATE:
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Pred. No. 1.5e+05;
0; Mismatches 1; Indels
                                                                                                                92.1%; Score 35; DB 1; Length 9; 85.7%; Pred. No. 1.5e+05; ive 0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Cai, Ren Zhi
APPLICANT: Schally, Andrew V.,
TITLE OF INVENTION: No. 5244883apeptide Bombesin
TITLE OF INVENTION: Antagonists
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Position 1 is D-Trp
Position 8 is a reduced
isostere of named aminoacid
                    Position 8 is a reduced isostere of named aminoacid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION DATA:
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: No. 5244883e
FILING DATE: NO. 5244883e
FILING DATE: ATPORMATION:
NAME: Behr, Omri M.
REGISTRATION NUMBER: 22,940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE/DOCKET NUMBER: SHAL3.0-011
TELECOMMUNICATION INFORMATION:
TELEPHONE: (908 494 -5240
TELEAX: 1-908-494-0428
TELEX: 511642 BEPATEDIN
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQUENCES: 40
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Andrew V. Schally
STREET: 5025 Kawanne Avenue
CITY: Metairie
STATE: Louisiana
COUNTRY: USA
21P: 70002
                                                                                                                                                                                                                                                                                                                                  Sequence 2, Application US/07619747B Patent No. 5244883 SENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: 360K Diskette
COMPUTER: IBM PC
OPERATING SYSTEM: DOS 5.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             92.1%;
85.7%;
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Best Local Similarity 85.7
Matches 6; Conservative
                                                                                                              Query Match 92.1
Best Local Similarity 85.7
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: AMINO
STRANDEDNESS: Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY: Unknown
MOLECULE TYPE: peptide
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                OTHER INFORMATION:
COTHER INFORMATION:
US-07-619-747B-1
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COTHER INFORMATION:
US-07-619-747B-2
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2 QWAVGHL 8
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FEATURE:
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TITLE OF INVENTION: No. 5244883apeptide Bombesin
TITLE OF INVENTION: Antagonists
NUMBER OF SEQUENCES: 40
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Andrew V. Schally
STREET: 5025 Kawanne Avenue
STREET: 6025 Kawanne Avenue
CITY: Metairie
STATE: Louisiana
COUNTRY: DO02
COMPUTER READABLE FORM:
MEDIUM TYPE: 360K Diskette
COMPUTER READABLE FORM:
MEDIUM TYPE: 360K Diskette
COMPUTER READABLE FORM:
MEDIUM TYPE: 360K Diskette
COMPUTER: IBM PC
OPERATING SYSTEM: DOS 5.0
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: NA
APPLICATION NUMBER: SAL3.0-011
FILING DATE: NA
APPLICATION NUMBER: SHAL3.0-011
FILING DATE: NA
APPLICATION NUMBER: SHAL3.0-011
TELECHONE: GO03494-5240
TELECHONE: 1-904-44-4048
TELECHONE: GO03494-5240
TELECHONE: CHARACTERISTICS:
SEQUENCE: CHARACTERISTICS:
LENGTH: AMTNO
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Position 8 is a reduced
isostere of named aminoacid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MOLECULE TYPE: peptide
FEATURE:
OTHER INFORMATION:
OTHER INFORMATION: Posi
OTHER INFORMATION: posi
OTHER INFORMATION: isos
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: AMINO
STRANDEDNESS: Unkr
TOPOLOGY: Unknown
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St Local Similarity 85.7%; Pred. No. 1.5e+05; Local Similarity 85.7%; Pred. No. 1.5e+05; Local 6; Conservative 0; Mismatches 1; Indels

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0; Gaps

Search completed: October 25, 2001, 11:23:57 Job time: 270 sec

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Bombesin/gastrin r
Bombesin analog pe
Linear litorin ana
Linear litorin ana
Bombesin analogue
Bombesin receptor
Sequence of Bombes
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Antagonist of bomb
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3.737 Million cell updates/sec
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                                                                                                        Search time 129.78 Seconds
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/ SIDSB/gcgdata/geneseq/geneseqp/AA1980.DAT:*

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/ SIDSB/gcgdata/geneseq/geneseqp/AA1991.DAT:*

/ SIDSB/gcgdata/geneseq/geneseqp/AA1991.DAT:*
                                                                                                                                                                                                                                                                                                                                              412676
GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd
                                                                                                                                                                                                                                                                                                                                          hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                        412676 seqs, 60623988 residues
                                                                                                    October 25, 2001, 11:22:46;
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                                                                                                                                                                                                                                                                                                                                                                                                                                  Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAP91147
AAR32998
AAM94610
AAP20294
AAR11241
AAR11242
AAR29155
AAR29157
AAM69335
                                                                    - protein search, using sw model
                                                                                                                                                                                                                                                   BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                              length: 0
length: 2000000000
                                                                                                                                                                       US-09-630-333-11
38
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                                                                                                                                                                                                               1 XQWAVXHL 8
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Match 1
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                                                                                                                                                                                                                                                                                                                                                                                sed
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Perfect score:
                                                                                                                                                                                                                                                   Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                DB
DB
                                                                    protein
                                                                                                                                                                                                                                                                                                        Searched:
                                                                                                                                                                                                                  Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Database
                                                                                                                                                                                                                                                                                                                                                                                Minimum
Maximum
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No.
                                                                                                    Run on:
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Peptide analogue #
Peptide analogue #
Peptide analogue #
Peptide derived fr
Sequence of new ne
Bombesin/gastrin-r
Non-cyclic analogu
Linea litoric na
Linea litoric na
Peptid analogu
Bombesin analogu
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Bombesin analoguis
Bombesin analoguis Bombesin peptide a Amino acid sequenc Amino acid sequenc Bombosin analo...e Non-cyclic analog. Example of periide Example of periide Example of periide Example of periide Peptide analogue # Peptide analoque # Peptide analoque # 30mbesin antaqunı AAR14865 AAR14866 AAR14867 AAR14873 AAR40903 AAW51195 AAW51201 AAP96113 AAB48341 AAR04531 AAR11224 AAR11240 AAR14877 AAR28456 AAR28459 AAW64910 AAW50941 AAW92740 AAB08302 AAB08308 AAB08308 AAR04526 AAR04527 AAR04528 AAR04530 AAR11520 AAR11521 AAR11521 AAR11523 AAR11523 AAR11523

ALIGNMENTS

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Bombesin antagonist; malignant disease; therapy; gastric acid
                                                               Sequence of new neuromedin C deriv.
                                                                                            Location/Qualifiers
             AAP91147 standard; protein; 7 AA
                                                                                                          /label=OTHER
/note="Ac-D-Gln"
                                                                                                                                                             /note="Leu-OMe"
                                                                                                                                /label=OTHER
/note="D-Ala"
                                                                                                                                                      /label=OTHER
                                                                                                                                                                                                                         88GB-0013355
                                                                                                                                                                                                         88EP-0310094
                                         (first entry)
(corrected)
                                                                                                   Misc-difference
                                                                                                                        Misc-difference
                                                                                                                                               Misc-difference
                                                                                                                                                                                                         27-OCT-1988;
                                         13-MAY-1990
22-DEC-1990
                                                                                                                                                                                                                         06-JUN-1988;
                                                                                                                                                                                           10-MAY-1989.
                                                                                                                                                                            EP315367-A.
                          AAP91147;
      AAP91147
RESULT
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(ICIL) IMPERIAL CHEM INDS PLC

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7 AA;
  5-200 mg/dose.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Edwards JV,
                                                                                                                                                                                                                                                                                                                                                                                  WO9220707-A
                                                                                                                                                                                                                                                                                                                                                                                                     26-NOV-1992
                                                                                                                                                                                                                                                                 Synthetic.
                      Sequence
                                                                                                                                                                            AAR32998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                 AAR32998
                                                                                                                                       RESULT
   SXC
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                                                                                                       It is a potent bombesin antagonist. It may be used for the treatment of e.g. malignant disease, conditions associated with the over-prodn. of bombesin and conditions associated with failure of normal physiological control of the regulation of gastric acid secretion.
                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The peptide is modified at the N-terminal with a lauryl, palmitoyl or esp. an octanoyl gp. The Leu at position 7 may be absent. The C-terminal (Leu or His) is amidated. The peptides and derived salts can be used to treat small cell lung carcinoma, prostatic carcinoma, tumour tissue growth, peptide ulcers, cancer and associated conditions, and to effect antagonism of bombosin/gastrin releasing peptide. Dosage is 0.2-250 mg/kg dally in 1-4 doses, at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New peptide bombesin-GRP antagonists - used as antitumour agents to treat e.g. leukaemia, small cell lung and prostatic carcinoma and to inhibit gastric acid secretion.
                                                                                                                                                                                                         ;
0
                                    New Neuromedin C polypeptide derivs. - are potent bombesin antagonist used for treating malignant disease and conditions associated with gastrin or gastric acid
                                                                                                                                                                                  Score 36; DB 10; Length 7;
Pred. No. 3.4e+05;
0; Mismatches 1; Indels
  Hayward CF;
                                                                                     Disclosure; Page 929; 49pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                           AAR20585 standard; Peptide; 7 AA.
  Dutta AS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 7; Page 12; 14pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                              /note= "D-Ala"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (RICH ) MERRELL DOW PHARM INC
                                                                                                                                                                                   94.78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        91EP-0112504,
                                                                                                                                                                                                                                                                                                                                                                      Antitumour agent; leukaemia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         90US-0558031
                                                                                                                                                                                                                                                                                                                                                    Antagonist of bombesin/GRP
                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                        6; Conservative
 Cotton R,
                   WPI; 1989-139341/19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 1992-034251/05
                                                                                                                                                                                  uery Match
est Local Similarity
Matches 6; Conserv
                                                                                                                                                       7 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                     Misc-difference
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| qwavahl 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Krstenansky JL;
                                                                                                                                                                                                                          2 QWAVXHL 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       25-JUL-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         26-JUL-1990;
                                                                                                                                                                                                                                                                                                                                07-MAY-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                 EP468497-A
 Camble R,
                                                                    secretion
                                                                                                                                                                                                                                                                                                                                                                                        Synthetic
                                                                                                                                                        Sequence
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                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note= "N-alpha-acetyl-Gln, N-alpha-octyl-Gl, N-alpha-lauryl-Gln or N-alpha-palmityl ,11"
                                                                 .,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New bombesin peptide agonists and antagonists - stimulate or inhibit digestion, increase susceptibility of tumours to chemotherapeutic agents, treat gastric ulcers and tumours etc.
  Score 36; DB 13; Length 7; Pred. No. 3.4e+05; 0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Intracellular signal; inhibition; gastrointestinal tract;
litorin; Gastrin Releasing Peptide; GRP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     [D-Ala11]-bombesin(7-13)amide derivs.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                  AAR32998 standard; peptide; 7 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note= "amidated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Example; Page 40; 64pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note= "D-Ala"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /label= OTHER
94.78;
85.78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (RICH ) MERRELL DOW PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 91US-0704863.
                                                                                                                                                                                                                                                                                                                                                                                                                                13-APR-1993 (first entry)
                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Fanger BO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 1992-415707/50
  Query Match
Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Misc-difference 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AA;
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Modified-site
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qwavahl
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                                                                                                                2 QWAVXHL
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RESULT
AAW94610
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 Query Match
Best Local S
Matches 6
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       24-JUL-1991;
26-JUL-1990;
21-JUL-1994;
23-MAY-1995;
23-FEB-1996;
                                                                                                                                        The present sequence represents a bombesin/gastrin releasing peptide type inhibitor peptide. The peptide may be used as an antimitotic and antisecretory peptide. It can control growth of small cell lung and prostatic carcinomas, and it can also inhibit gastric secretions which are causative and symptomatic of peptic ulcers. Administration may be oral but is preferably subcutaneous, intravenous, intramuscular or intraperitoneal, by depot injection, by implant preparation or by application to the mucous membranes (e.g. of the nose or bronchial
                                                                                                                                                                                                                                                                                                                                                    e.g., small cell lung carcinoma or
                                                                                                                                                                                                                                                                                                                                                                   New peptide antagonists of bombesin or gastrin releasing peptide are useful as antimitotic and antisecretory agents in treating,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bombesin; gastrin releasing peptide; GRP; inhibitor; antagonist;
small cell lung carcinoma; tumour; frog; antimitotic; antisecretory;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bombesin/gastrin releasing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   27-APR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAW94610 standard;
                                                                                            Sequence
                                                                                                                                                                                                                                                                                                              Claim 5; Column 14; 9pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 1999-141255/12.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (RICH ) MERRELL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       23-FEB-1996;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     peptic ulcer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAW94610;
 Local Similarity
nes 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity
les 6; Conserv
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                                                                                                                                aerosol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
   Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     91US-0735402.
90US-0558031.
94US-0278692.
95US-0447528.
96US-0960130.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     96US-0960130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PHARM INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
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                   94.7%;
85.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               94.7%;
85.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "optionally modified by octanoy1, lauroy1 or
   palmitoy1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "amidated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             peptide type inhibitor peptide
 Pred. No. 3.4e
0; Mismatches
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Pred.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             36; DB 13;
No. 3.4e+05;
                                                                                                                                                                                                                                                                                                                                                    peptic ulcers
                   DB 20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 7;
                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
   Indels
 0
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 Gaps
0
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                                                                                                                                              RESULT
AAR11241
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AAP20294
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               Linear litorin analogue (III)
                                                                                          AAR11241;
                                                                                                                                                                                                                                                                                                                                                                                       Sequence
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Query Match
Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                        The peptide may be preceded by a formyl, acetyl, propionyl, acry or benzoyl group at its C-terminal. The peptide may be used a reducing the body temp. of a mammal, as well as for inducing analgesta. It produces hypothermia when injected i.c., but not when given i.v. or s.c. See also AAP20291-3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Octa:peptide bombesin analogues - analgesic props.
17-MAY-1991
                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 8; Column 8; 5pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 1982-48049E/23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                03-OCT-1980;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               03-OCT-1980;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     09-DEC-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAP20294 standard; peptide;
                                                               AAR11241 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  25-MAY-1982.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bombesin analog peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (SALK-) SALK INST BIOLOGICA.
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                                                                                                                                            ||||| ||
1 qwavahl 7
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                                                                                                                                                                             2 QWAVXHL 8
                                                                                                                                                                                                                                                                                               ထ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Brown MR,
                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                               AA;
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                80US-0193621
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /label= D-Ala
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  'label≃ D-Glu
                                                                                                                                                                                                                             94.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (48049E).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rivier JEF;
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                                                                                                                                                                                                              0;
                                                                                                                                                                                                                           Score 36; DB 3;
Pred. No. 3.4e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ā
                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              having hypothermic
                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                              Indels
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XXX XXX DXXX AC XXX AC 
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      bery Match
                        Synthetic
                                                                            diabetes.
                                                                                               Bombesin; litorin analogue; linear; receptor affinity; cancer;
                                                                                                                                                Linear litorin analogue (IV).
                                                                                                                                                                                                            17-MAY-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This peptide is a specifically claimed example of a generic formula. The C-terminal amino acid (Met) of the naturally occurring peptide has been converted to an amide and phe 8 has been replaced by beta-Leu. Gly 6 has also been replaced by D-Ala.

The peptide is useful for treating benign or malignant tissue proliferation, artherosclerosis, gastrointestinal disorders and diabetes. They act as competitive inhibitors of natural peptides, since they bind to the cell receptors but have no biological
                                                                                                                                                                                                                                                                                                              AAR11242 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (TULA )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The analogue may also be of a naturally occurring peptide terminating at the C-terminus with a Met residue, such as 10 amino acid C-terminal region of mammalian GRP or amphilation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 18; Page 54; 58pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New linear peptide analogues of bombesin - modified to biological activity while retaining receptor affinity,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Coy DH,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21-AUG-1989;
30-MAR-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      See also AAR11239-242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cancer, diabetes, etc.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    07-MAR-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     W09102746-A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bombesin; litorin analogue; linear; receptor affinity; cancer; diabetes.
                                                                                                                                                                                                                                                                                                                                                                                                                                        2 QWAVXHL 8
|||| ||
2 qwavahl 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
les 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                       7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Moreau JP,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ΑĄ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 89US-0397169.
90US-0502438.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                              Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        94.7%;
85.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Kin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SH
                                                                                                                                                                                                                                                                                                              8 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 36;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3.4e+05;
1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 8;
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or amphibian
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for treating
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RESULT
ARR29155
ID AAR2
XX ARR2
AC ARR2
XX Bomb
XX Bomb
XX Hepa
XX Hepa
XX Synt
XX Synt
XX Synt
XX Misc
FT Misc
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                                                                                                                                                                                                                                                                                     QY
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Best Local S
Matches 6
                                                                                                Hepatoma; liver cancer; antagonist
                                                                                                                                                                           AAR29155;
                                                                                                                                                                                                 AAR29155 standard; peptide; 8
            Modified-site
                                    Misc-difference
                                                                                                                          Bombesin analogue (5).
                                                                                                                                                 16-APR-1993
                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                        The analogue may also be of a naturally occurring peptide terminating at the C-terminus with a Met residue, such as the 10 amino acid C-terminal region of mammalian GRP or amphibian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       These peptides are specifically claimed examples of a generic formula. The C-terminal amino acid (Met) of the naturally occurring peptide has been converted to a methylester. The peptide is useful for treating benign or malignant tissue prolliferation, artherosclerosis, gastrointestinal disorders and diabetes. They act as competitive inhibitors of natural peptides, since they bind to the cell receptors but have no biological
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New linear peptide analogues of bombesin - modified to eliminate biological activity while retaining receptor affinity, for treating cancer, diabetes, etc.
                                                                                                                                                                                                                                                                                                                                                                                                    See also
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 20+21; Page 54; 58pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Coy DH,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21-AUG-1989;
30-MAR-1990;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               activity
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2 qwavahl
                                                                                                                                                                                                                                                                                                               Local Similarity
nes 6; Conser
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                                                                                                                                                                                                                                                                                                                                                                                                    AAR11239-242.
                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                8
                                                                                                                                                (first entry)
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90US-0502438.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        90WO-US04646
 /note= "NMe-D-Ala"
                        /note= "D-form residue"
                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /label= N-methyl-D-Ala
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /label=D-Phe, pentafluoro-Phe
                                                                                                                                                                                                                                                                                                                         94.7%;
85.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Kim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SH
                                                                                                                                                                                                                                                                                                            Score 36; DB 12; Pred. No. 3.4e+05; 0; Mismatches 1;
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                                                                                                                                                                                                                                                                                                                                   Length 8;
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AAR29157
ID AAR2
XX
AC AAR2
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DT 16-4
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Best Local S
Matches 6
                                                                                                                                                                                                                                                                                                                                                                                                                                              Treatment of hepatoma - by with carrier
                                                                                                                                                                                                                                                                                                                                                                                           The peptide is an example of a highly generic formula. It is used in a medicament for treating hepatoma. The cpd. acts as antagonist to bombesin, which has been detected in a number of human cancer
                                                                                                                                                                                                                                                 AAR29157 standard; peptide; 8 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 14; Page 48; 54pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 1992-415466/50.
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                                                 11-MAY-1992;
                                                                                                         Modified-site
                                                                                                                         Misc-difference
                                                                                                                                                                 Synthetic
                                                                                                                                                                                                                    16-APR-1993
                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bodgen AE, Coy DH,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (BIOM-) BIOMEASURE INC. (TULA ) TULANE EDUCATIONAL FUND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  10-MAY-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  26-NOV-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   W09220363-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Modified-site
       (BIOM-) BIOMEASURE INC. (TULA ) TULANE EDUCATIONAL FUND
                                10-MAY-1991;
                                                                 26-NOV-1992
                                                                                WO9220363-A
                                                                                                                                          Modified-site
                                                                                                                                                                                  Hepatoma; liver cancer;
                                                                                                                                                                                                  Bombesin analogue (6).
                                                                                                                                                                                                                                                                                                                                                                                      lines.
                                                                                                                                                                                                                                                                                                                            Local Similarity
mes 6; Conser
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2 qwavahl 8
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                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                     AA;
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                                91US-0698681.
                                                 92WO-US03916
                                                                                                                                          Location/Qualifiers
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                                                                                                 /note=
                                                                                                                 /note= "D-form residue"
                                                                                                                                /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note= "Leu-OMe"
                                                                                                                                                                                                                                                                                                                                    94.7%;
85.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Kim SH,
                                                                                                 "Leu-OMe"
                                                                                                                                 "D-F5-Phe"
                                                                                                                                                                                  antagonist.
                                                                                                                                                                                                                                                                                                                                                                                                                                                      admin. of
                                                                                                                                                                                                                                                                                                                           Score 36; DB
Pred. No. 3.4e
0; Mismatches
                                                                                                                                                                                                                                                                                                                             0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                     admixed bombesin analogue
                                                                                                                                                                                                                                                                                                                                   DB 13;
3.4e+05;
                                                                                                                                                                                                                                                                                                                                           Length
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AAW64911
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 10
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Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                     Bombesin; antagonist; chlorambucil; peptic ulcer; pancreatitis; eating disorder; diabetes; acromegaly; enterocutaneous fistali; psoriasis; growth retardation; gastrointestinal motility distributions.
                                        New bombesin, gastrin releasing peptide or Neuromedin B or C derivs antagonists for treating conditions such as gastrointestinal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The peptide is an example of a highly generic formula. It is in a medicament for treating hepatoma. The cpd. acts as antico bombesin, which has been detected in a number of human care.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Treatment of with carrier
         Claim
                               disorders,
                                                                           WPI; 1995-052004/07.
                                                                                                                                              17-DEC-1993;
18-JUN-1993;
                                                                                                                                                                                                      05-JAN-1995.
                                                                                                                                                                                                                                                                                                                                                     Synthetic.
                                                                                                                                                                                                                                                                                                                                                                           antitumour
                                                                                                                                                                                                                                                                                                                                                                                                                                  Bombesin receptor antagonist.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         06-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAW64911;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAW64911 standard; peptide; 8 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 15; Page 48; 54pp; English
                                                                                                Chandrasekhar B,
                                                                                                                                                                                                                            WO9500542-A1
                                                                                                                                                                                                                                                                        Modified-site
                                                                                                                                                                                                                                                                                                                     Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 1992-415466/50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bodgen AE,
                                                                                                                                                                               15-JUN-1994;
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2 qwavahl 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 QWAVXHL 8
        6; Page 34; 45pp; English
                                                                                                                       PEPTIDE TECHNOLOGIES CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                             psoriasis and cancers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Coy DH,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                hepatoma -
                                                                                                                                              93US-0168390.
93US-0078062.
                                                                                                                                                                               94WO-US06757
                                                                                                                                                                                                                                               /note= "The carboxy terminal is in the form ethyl ester"
                                                                                                                                                                                                                                                                              /note= "The amino terminal is acylated with Josefyl, bromoacetyl, chloroacetyl, [bis(2-chloroethyl) Jack-phenylalanine or a chlorambucil group"
                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                Knight M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   94.7%;
85.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Kin
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 36; DB 13;
Pred. No. 3.4e+05;
0; Mismatches 1
                                                                                                Takahashi K;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  of admixed bombesin analog
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CC The patent discloses (1) the peptide sequence of bombesin (BBN), CC gastrin releasing peptide (RRP), Neuromedin B or Neuromedin C, CC the peptide sequence having a chlorambucil group attached to the CC amino terminal; (2) a BBN receptor antagonist of formula CC R4-His-TRP-Ala-R1-R2-His-R3-CO-CH2CH3; and (3) a BBN receptor CC antagonist of formula R4-Asn-R5-TRP-Ala-Val-R4-His-Leu-CO-CH2CH3. CC In these formulae, R1 = Val or Thr; R2 = Gly or D-Ala; R3 = Leu or CC Phe; R4 = N-acetyl, bromoacetyl, chloroacetyl, [bis(2-chloroethyl)-CC amino]-L-phenylalanine or a chlorambucil group; and R5 = Gln or His. CC amino]-L-phenylalanine or a chlorambucil group; and R5 = Gln or His. CC growth-promoting effects of BBN/GRP-like peptide antagonists. They CC growth-promoting effects of BBN, GRP or a related peptide such as CC pancreatic cells, gastric cells, neurons, hypothalamic cells and CC cancerous cells or tumours. They can also be used to inhibit the CC binding of BBN, GRP or a related peptide to cells capable of such CC binding. They can be used for treating e.g. peptic ulcer, pancreatitis, CC psoriasis, growth retardation, gastrointestinal motility disorders or tumours. The terminal structures of the compounds protect them from CC in vivo proteolysis and provide highly potent antagonist effects that persist for extended periods of time upon administration.
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Best Local Similarity
Matches 6; Conserv
Bombesin receptor peptide ligands with irreversible effects agonists and antagonists both weak and strong % \left( 1\right) =\left\{ 1\right\} =\left\{ 1\right\} 
                                                               WPI; 1990-067161/09.
                                                                                                         Molinari
                                                                                                                          de Castiglione R,
                                                                                                                                                                                                          28-MAR-1989;
21-JUL-1988;
                                                                                                                                                                (FARM ) FARMITALIA C ERBA SPA
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Modified-site
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence of
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88GB-0017379.
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85.7%;
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amino-L-phenylalanine"
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Pred. No. 3.4e+05;
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Conservative

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Score 36; DB 12; Pred. No. 3.4e+05; 0; Mismatches 1

Length

Indels

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Query Match
Best Local Similarity
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AAR11522
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Best Local Similarity
Matches 6; Conser
                                                                                                                                                                                                                                                                                                05-MAY-1990;
15-SEP-1989;
21-NOV-1989;
                                                                                          This is a peptide analogue of mammalian gastrin releasing peptide (GRP), neuromedin-B or -C, amphibian bombesin and litorin. It is an agonist of these cpds. and is used to treat smooth muscle proliferation and cancer of the prostate, breast or lung. Residue 6 (Ala) is D-alanine.
                                                              Sequence
                                                                                                                                                                                      Treatment of non malignant proliferative disease and cancer administration of natural peptide or fragment selected from gastrin releasing peptide, neuromedin, amphibian bombesin or items.
                                                                                  See also AAR11519-21
                                                                                                                                                            Claim 22;
                                                                                                                                                                                                                                   WPI; 1991-117320/16.
                                                                                                                                                                                                                                                        Bogden AE,
                                                                                                                                                                                                                                                                            (BIOM-) BIOMEASURE INC.
                                                                                                                                                                                                                                                                                                                                           17-SEP-1990;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAR11522;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The inventors claim 36 peptides. Also claimed are:
(a) pharmaceutical prepn. of a peptide of the invention; (b) prepn. of the peptides.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Example of peptide agonist of GRP, neuromedin,
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                                                                                                                                                         page 54; 73pp; English.
                                                            9 AA;
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89US-0408125.
89US-0440039:
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                                                                                                                                                                                                                                                                                                                                                                                                                   /label= OTHER
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                  94.7%;
85.7%;
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85.7%;
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Pred. No.
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Matches 6; Conser
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Synthetic
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neuromedin B or C or bombesin, for treating cancer, preventing
smooth muscle proliferation and suppressing appetite and alcoh
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  tissue proliferation;
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AAR14866;
                   AAR14866 standard;
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                                                                                                                                                                                                                                                                                                                                                                                                          (TULA ) TULANE E FUND ADMINISTRA. (BIOM-) BIOMEASURE INC.
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                    Protein; 9
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                                                                                                                          94.7%;
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                                                                                                                Score 36; DB Pred. No. 3.4e 0; Mismatches
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. 3.4e+05;
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AAR14867
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                    Synthetic.
                                         tissue proliferation;
                                                              Peptide analogue #8 of litorin, GRP, neuromedin or bombesin
                                                                                   14-FEB-1992
                                                                                                         AAR14867;
                                                                                                                            AAR14867 standard; Protein;
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BIOMEASURE INC.
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Pred. No. 3.4e+05;
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                                                                                                                                                                                 Sequence
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                                                                                                                                                                                                                                                                                                                                                         Peptide agonists of litorin, gastrin releasing peptide -
neuromedin B or C or bombesin, for treating cancer, preventing
smooth muscle proliferation and suppressing appetite and alcohol
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85.7%;
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Listing first 45 summaries
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Maximum DB seq length: 2000000000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ched:
                              Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                              SPTREMBI_16:*

1: sp_archea:*
2: sp_bacteria:*
3: sp_fung1:*
4: sp_human:*
5: sp_invertebrate
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phage:*
10: sp_phage:*
11: sp_rodent:*
12: sp_unclassifie
13: sp_vertebrate:
14: sp_virus:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     October 25, 2001, 11:27:45; Search time 135.34 Seconds (without alignments) 7.821 Million cell updates/sec
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Gapop 10.0 , Gapext 0.5
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38
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                                                                                                                                                                                                                                                                                       sp_invertebrate:*
SUMMARIES
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19	18	17	16	15	14	13	12	11	10	9	80	7	6	υī	4	w	N	1	Result No. S
31	31	31	31	31	31	31	31	31	31	31	31	31	31	32	32	32	32	33	Score
81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	84.2	84.2	84.2	84.2	86.8	Query Match
359	357	325	309	273	266	256	236	232	216	183	119	86	95	806	353	328	174	517	Query Match Length
10	10	ν	u	8	υ	w	N	w	11	N	13	14	N	13	G	2	10	14	DB
Q9FUK9	065366	Q9PAR1	Q27106	Q9TJQ5	Q9VZF7	Q9P6Y1	085726	Q9UVE4	Q9ЛM34	Q9RZ51	Q90253	Q64981	Q9I1X2	Q9DDL2	Q21051	Q9X5G8	Q9M2H1	Q9DSP4	ID
Q9fuk9 pisum sativ	O65366 antirrhinum	Q9parl xylella fas	Q27106 trichomonas	Q9tjq5 prototheca	Q9vzf7 drosophila	Q9p6y1 neurospora	085726 streptomyce	Q9uve4 zygosacchar	Q9jm34 mus musculu	Q9rz51 deinococcus	Q90253 bombina ori	Q64981 artichoke l	Q9i1x2 pseudomonas	Q9ddl2 brachydanio	Q21051 caenorhabdi	Q9x5g8 streptomyce	Q9m2h1 arabidopsis	Q9dsp4 saint croix	Description

45	44	43	42	41	40	39	38	37	36	35 5	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20
30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	31	31	31	31	31
78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	81.6	81.6	81.6	81.6	81.6
858	721	719	700	691	520	453	375	325	318	311	291	283	276	252	252	224	170	157	132	23	1275	1273	703	696	675
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Q17647	Q9K7H4	P87541	Q07711	Q55726	065815	Q9M4A9	Q9TVM5	Q9KZG2	Q9I066	Q9PAE5	072694	Q9PCE4	Q9L1Q5	Q9F120	026248	Q9UI28	P74711	Q918Z9	Q9K3V3	Q9PS30	015057	Q9NU68	Q9LYH3	Q9VCU2	Q9S9V7
Q17647 Secondabdi	Q9k7h4 bacillus ha	P87541 barley mild	Q07711 sta; hylococ	Q55726 sy: chocyst	06581: helianthus	Q9m4. p.sum sativ	Q9tvm5 carnorhabdi	Q9kzgz streptomyce	Q9i066 pseudomenas	Ų9pae5 xy≀⊷lla ids	072694 larley mild	Q9pce4 xytella fas	Q911q5 streptomyce	Q9fi20 arabities		Q9ui28 homo sapien		Q918z9 carassius a	Q9k3v3 streptomyce	Q9ps30 oncorhynchu	015057 homo sıen	09nu68 homo s.i. in	Q91yh3 arabidopsis	Q9vcu2 drosophila	Q9s9v/abidopsis

ALIGNMENTS

88	000	GN	DE	DT.	Dī	AC	ID	Q9M2H1	RESULT	DЬ	Qγ	M B C	<u>o</u>	SQ	RL	RT	RA	R R P	0 K	3 6	DE	DI.] [AC.	Ħ	RESULT
Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosids [1]; Brassicales; Brassicaceae; Arabidopsis.	Arabidopsis thaliana (Mouse-ear cress). Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatornyta;	F14P22.40.	L 19.2 KDA PROTEIN.	01-007-2000 (TrEMBLrel. 15, Last sequence update)	(TrEMBLrel. 15, Creat	••	Q9M2H1 PRELIMINARY; PRT; 174 AA.	2H1	JLT 2	500 QWALAHL 506	2 QWAVXHL 8	Similarity 71.4%; Pred. No. 51; 5; Conservative 1; Mismatches 1;	Ouery Match 86.8%; Score 33; DB 14; Lengt 517;	EMBL; AF143403; AAN34202.1; T. SEQUENCE 517 AA; 58030 MW; 0104A543FB2A1B1A CRC64;	Submitted (APR-1999) to the EMBL/GenBank/DDBJ databases.	nucleotide sec		[1] SEQUENCE FROM N.A.	I_TaxID=104581;	Decuiridae.	NS1.	(TrEMBLrel. 16, Last	01-MAR-2001 (Trembliel 16. Last segmence undate)		Q9DSP4 PRELIMINARY; PRT; 517 AA.	ДТ 1 5P4

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Q21051;
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01-NOV-1996 (TrEMBLrel. 0
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COSMID F59G1.
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Transferase; Por
    F59G1.4.
Caenorhabditis elegans
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Pfam; PF00561; abhydrolase; 1.
Transferase; Porin.
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01-NOV-1999 (TIEMBLIEL 12, Last sequence update)
01-MAR-2001 (TIEMBLIEL 16, Last annotation update)
PUTATIVE DEACETYLCEPHALOSPORIN C ACETYLTRANSFERASE.
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EU Arabidopsis sequencing project;

Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases

EMBL; AL137082; CAB68183.1; ...
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D'Angelo M., Vezzi A., Modesto D., Pigazzi M., Valle G.,
Lemcke K., Mayer K.F.X., Quetier F., Salanoubat M.;
Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=99240369; PubMed=10223939;
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71.4%;
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Last annotation update)
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Best Local Similarity
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Q9DDL2;
01-MAR-2001
01-MAR-2001
01-MAR-2001
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EMBL; AF316598; AAG38590.1; -
SEQUENCE 806 AA; 90754 MW;
                                                                                                                                                                 Uren A.G., O'Rourke K., Aravind I
Koonin E.V., Dixit V.M.;
"Identification of Paracaspases a
of Caspase-like Proteins, One of
                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata;
Actinopterygii; Neopterygii;
Cypriniformes; Cyprinidae; Re
NCBI_TaxID-7955;
                                                                                                                                                                                                                                                      SEQUENCE FROM N.A. PubMed=11090634;
                                                                                                                                                                                                                                                                                                                                                                                              Brachydanio rerio (Zebrafish)
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STRAIN-BRISTOL N2;
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MEDLINE=94150718; PubMed=7906398;
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[1]
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1 (TrEMBLrel.
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Chordata; Craniata; Vertebrata; I
pterygii; Teleostei; Euteleostei;
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57.1%;
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71.4%;
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Pred. No. 1
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Pred. No.
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f which Plays a Key
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Stover C.K., Pham X.-Q.T., Erwin A.L., Mizoguchi S.D., Warrener P., Hickey M.J., Brinkman F.S.L., Hufnagle W.O., Kowalik D.J., Lagrou M., Garber R.L., Goltry L., Tolentino E., Westbrock Wadman S., Yuan Y., Brody L.L., Coulter S.N., Folger K.R., Kas A., Larbig K., Lim R.M., Smith K.A., Spencer D.H., Wong G.K.-S., Wu Z., Paulsen I.T., Reizer J., Saier M.H., Hancock R.E.W., Lory S., Olson M.V.; "Complete genome sequence of Pseudomonas aeruginosa PAO1, an opportunistic pathogen.";
Nature 406:959-964(2000).
EMBL; AE004641; AAG05531.1; -.
                                                                                                                                                                                                                SEQUENCE
                                                                                                                                                                                                                                      EMBL; X87255;
NON_TER
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01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-AUG-1998 (TrEMBLrel. 07, Last annotation update)
MRNA UNKNOWN FUNCTION (523BP) (FRAGMENT).
Artichoke latent potyvirus.
Artichoke latent potyvirus.
Potruses; SSRNA positive-strand viruses, no DNA stage; Potyviridae;
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QWAVEH 94
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Q90253;
Q1-NOV-1996
Q1-NOV-1996
Q1-MAR-2001
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Q9RZ51;
01-MAY-2000
01-MAY-2000
01-MAR-2001
                                                                                                                                                                                                   MEDLINE=20036896; PubMed=10567266; White O., Elsen J.A., Heidelberg J.F., Hickey E.K., Peterson J.D., White O., Elsen J.A., Heidelberg J.F., Hickey E.K., Peterson D.L., Dodson R.J., Haft D.H., Gwinn M.L., Nelson W.C., Richardson D.L., Moffat K.S., Qin H., Jiang L., Pamphile W., Crosby M., Shen M., Moffat K.S., Qin H., Jiang L., Pamphile W., Crosby M., Shen M., Vamathevan J.J., Lam P., McDonald L., Utterback T., Zalewski C., Nakarova K.S., Aravind L., Daly M.J., Minton K.W., Fleischmann K.D. Ketchum K.A., Nelson K.E., Salzberg S., Smith H.O., Venter J. Fraser C.M.;
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostoni
Amphibia; Batrachia; Anura; Archeobatrachia; Bombinatoridae; Jacoba
                                                                                    "Genome sequence of the radioresistant bacterium Deinococcus radiodurans R1.";
Science 286:1571-1577(1999).
EMBL; AE001862; AAF12366.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bacteria; Thermus/Deinococcus
NCBI_TaxID=1299;
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J. Biol. Chem. 271:7731-7737(1996).
EMBL; U49450, AAC55784.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Dong J.Z., Spindel E.R.;
"There are three distinct forms of bombesin.
[Leui3]bombesin, [Phel3]bombesin, and [Ser3, ]
      Hypothetical
SEQUENCE 18
                                                               TIGR; DRA0103;
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MEDLINE=96205965; PubMed=8631814;
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Pfam; PF02044; Bombesin; 1
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Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OSUVE4;
OSUVE4
                                                                                                                                                                                                             "Genomic organization of Pichia sorbitophila and Zygosaccharomyces rouxii genomes:comparison with Saccharomyces cerevisiae."; Submitted (DEC-1998) to the EMBL/GenBank/DDBJ databases. EMBL; Y1850; CAB62288.1; -.
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NON_TER
SEQUENCE
                                                                                                                                   InterPro; IPR001601; -.
Hypothetical protein.
SEQUENCE 232 AA; 26369 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A. STRAIN-CBS 732;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Fungi; I Saccharomycetales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-MR-2001 (TrEMBLrel. 16, Last annotation update)
01-MR-2001 (TrEMBLREL 16, Last annotation update)
0LFACTORY RECEPTOR (FRAGMENT).
Mus musculus domesticus (western European house mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Musinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; AF073967; AAD43416.1; -.
Interpro; IFR000276; -.
Pfam; PF00001; 7tm.1; 1.
PROSITE; PS00237; G_PROTEIN_RECEPTOR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "The olfactory receptor gene repertoire in primates and mouse Evidence for reduction of the functional fraction in primates. Proc. Natl. Acad. Sci. U.S.A. 97:2870-2874(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE-20183981; PubMed-10706615; Rouquier S., Blancher A., Giorgi D.; "The olfactory receptor gene reperto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q9JM34;
01-ОСТ-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Saccharomycetaceae;
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1; Mismatches
                                                                                                                                           43CD832A6ED7F6B4 CRC64;
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   31;
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       58;
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01-OCT-2000 (TrEMBLrel.
01-OCT-2000 (TrEMBLrel.
01-MAR-2001 (TrEMBLrel.
                                                                                                                                        German Neurospora genome project;
Submitted (APR-2000) to the EMBL/
EMBL; AL353820; CAB88603.1; -.
InterPro; IPR001601; -.
SEQUENCE 256 AA; 27789 MW; 52:
                                                                                                                                                                                                                                                                                                                                                                                                         Neurospora crassa.
Eukaryota; Fungi; Ascomycota;
Sordariales; Sordariaceae; Neu
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085726; O1-NOV-1998 (TrEMBLrel. 08,
01-NOV-1998 (TrEMBLrel. 08,
01-NOV-1998 (TrEMBLrel. 08,
                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A. Schulte U., Aign V., Nyakatura G., Mewes
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EMBL; AF073896; AAC324911; -
SEQUENCE 236 AA; 27584 MW; FDII
                                                                                                                                                                                                                                                                                          Submitted
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Alexander D.C., Jensen S.E.;
"Investigation of the Streptomyces clavuligerus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
STRAIN=NRRL 3585;
MEDLINE=98361893; PubMed=9696752;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bacteria; Firmicutes; Actinobacteria; Actinobacteridae; Actinomycetales; Streptomycineae; Streptomyces.
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                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
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R-2000) to the
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                                    Score 31; DB Pred. No. 64; 0; Mismatches
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RA Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
RA George R.A., Lewis S.E., Richards S.A., Ashburner M., Henderson S.N.,
RA George R.A., Lewis S.E., Richards S.A., Shang Q., Chen L.X.,
RA George R.A., Lewis S.E., Richards S.A., Ashburner M., Henderson S.N.,
RA George R.A., Lewis S.E., Richards S.A., Ashburner M., Henderson S.N.,
RA George R.A., Lewis S.E., Richards S.A., Ashburner M., Pfeiffer B.D.,
RA Bartis G.C., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X.,
RA Bartis M.L., Doyle C., Baster E.G., Helt G., Nelson C.R., Miklos G.L.G.,
RA Abril J.F., Agbayani A.A. An H.-J., Andrews-Pfannkoch C., Baldwin D.,
RA Beeson K.Y., Benson P.V., Berman B.P., Bhandari D., Bestley E.M.,
RA Beeson K.Y., Benson P.N., Borlet B.P., Brotkter P.,
RA Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottler P.,
RA Burtis K.C., Busam D.A., Butler H., Cadieu E., Center A., Chandra I.,
RA Gepablos B., Detcher A., Deng Z., Mays A.D., Dew II., Dletz S.M.,
RA Gepablos B., Detcher A., Deng Z., Mays A.D., Dev II., Dletz S.M.,
RA Godsor K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,
RA Glodek A., Gong F., Gorrell J.H., Gu Z., Gelbart W.M., Glasser K.,
RA Glodek A., Gong F., Gorrell J.H., Gu Z., Gelbart W.M., Glasser K.,
RA Harris N.L., Harvey D., Helman T.J., Hernandez J.R., Houck J.,
RA Harris N.L., Houston K.A., Howland T.J., Wei M.-H., Dleywan C.,
RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Lasko P., Lei Y., Levitsky A.A., Lil J., Li Z., Liang Y., Lin X.,
RA Harris N.L., Woly M., Murphy B., Murphy J., Murphy D.M., Nelson D.L.,
Melson D.R., Nelson K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Palazzolo M., Pittman G.S., Pan S., Pollard J., Puri V., Reese M.G.,
RA Spier E., Spradling A.C., Stapleton M., Strong R., Sun E.,
RA Spier E., Stapleton M., Strong R., Sun E.,
RA Shue B.C., Stdar R., Rabier R., Weissenbach J.,
RA Zhong X.-, Ferror J.
Query Match 81.6%;
Best Local Similarity 71.4%;
Matches 5; Conservative
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SEQUENCE FROM N.A.
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Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
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                                                                                                                                FlyBase; FBgn0001257; ImpL2. InterPro; IPR003006; -.
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IMPL2 OR CG15009.
                                                                                                 SEQUENCE
                                                                                                                                                                               HSSP; P56276;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                162 QWCVGHL 168
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29823 MW;
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Search completed: October 25, 2001, 11:27:45 Job time: 448 sec
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Q9TJQ5;
Q1-MAY-2000 (TrEMBLrel. 13, 0
01-MAY-2000 (TrEMBLrel. 13, I
01-MAR-2001 (TrEMBLrel. 16, I
50S RIBOSOMAL PROTEIN L2.
                                                                                                                                                               Pfam; PF00181; Ribosomal_L2; 1.
ProDom; PD001012; -; 1.
PROSITE; PS00178; AA_TRNA_LIGASE_I; UNKNOWN_1.
PROSITE; PS00467; RIBOSOMAL_L2; 1.
Ribosomal protein; Chloroplast.
SEQUENCE 273 AA; 29952 MW; EE05656E77830BD
                                                                                                                                                                                                                                                                     genes;";
Submitted (AUG-1999) to the EMBL/GenBank/DDBJ databases
EMBL; AJ245645; CAB53116.1;
HSSP; P04257; 1RL2.
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NCBI_TaxID=3111;
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"A 22 kb fragment of the 53 kb plastid genome of the colourse...ilga
                                                                                                                                                                                                                                                                                                                                                        STRAIN-263-11
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nes 5; Conserv
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71.4%;
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Perfect score:
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   GRP_HUMAN
GRP_BOMOR
GRP_BOMOR
AGL8_SOLCO
IHA_TRIVU
IHA_HUMAN
IHA_HORSE
GYP6_YEAST
YDRESCHPO
PGSA_MYCPN
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4 sus scrofa
6 alligator m
3 xenopus lae
0 vis aries
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MEDLINE-91088602; runner Spindel E.R., Gibson B.W., Reeve J.K. J., Spindesin: evidence I.J. T., "Clothing of cDNAs encoding amphibian bombesin: evidence I.J. T., "Proc. Natl. Acad. Sci. U.S.A. 87:9813-9817(1990).

Proc. Natl. Acad. Sci. U.S.A. 87:9813-9817(1990).
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
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15-JUL-1998
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SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN
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FUNCTION: STIMULATES SMOOTH MUSCLE CONTRACTION. ROLE IN INDUCTION OF HYPOTHERMIA, STIMULATION OF DNA REPLICATION AND RELEASE OF MAN
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S09095; S09095.
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PYRROLIDONE CARBOXYLIC ACID.

AMIDATION (G-56 PROVIDE AMIDE
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InterPro: IPR000874; -.
InterPro: IPR000874; -.
Pfam; PF02044; Bombesin; 1.
PROSITE; PS00257; BOMBESIN; 1
Bombesin family; Amidation; M
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Anastasi A., Montecucchi P.C., Angelucci F.,
"Glu(OMe)3-litorin, the second bombesin-like
methanol extracts of the skin of the Australi
                                                                                                                                                                                                     "Amistasi A., Erspamer V., Endean R.;
"Aminoacid composition and sequence of litorin, a bombesin-like nonapeptide from the skin of the Australian leptodactylid frog Litoria aurea.";
                                                             PIR; S07204; S07204.
PIR; S07205; S07205.
                                                                                                          Experientia 33:1289-1289(1977)
                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                          Experientia
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the European Bioinformatics Institute
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                                                                                   SIMILARITY: BELONGS FAMILY.
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TISSUE SPECIFICITY: LOCALIZED TO THE CUTANBOUS GRANULAF GLANDS
THE SKIN AND THE BRAIN.
SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
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annotation
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    Cleavage on pair of basic residues;

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AMIDATION (G-59 PROVIDE A
AMIDATION (G-59 PROVIDE A
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sin-like peptide occurring
Australian frog Litoria a
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                                                                                                                    frog Litoria aurea.
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RESULT 6
RANA_E
ID RANA_E
AC P08950
DT 01-NOV
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DE RANATI
OS RANATI
OC EUKARI
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RN KIANE
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BOML_PSEGU
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Matches 5
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01-NOV-1988
15-DEC-1998
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MOD_RES
SEQUENCE
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01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence up
01-NOV-1995 (Rel. 32, Last annotation
BOMBESIN-LIKE PEPTIDE L (PG-L).
                                                                                                                          RANA_RANPI P08950;
                                                  Rana pipiens (Northern leopard frog)
Eukaryota; Metazoa; Chordata; Crania
Amphibia; Batrachia; Anura; Neobatra
                                                                                                                                                                                                                                                                                                                                                                         the Australian frog Pseudophryne guntheri.";
Peptides 11:299-304(1990).
-i- SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pseudophryne guentheri (Frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Neobatrachia; Bufonoidea; Myobatrachidae;
SEQUENCE FROM N.A.
MEDLINE-88330837; PubMed*2458345;
Krane I.M., Naylor S.L., Helin-Da
                                                                                                                                                                                                                                                                                                                                                                                                       Simmaco M., Severini C., de Biase D., Barra Roberts J.D., Melchiorri P., Erspamer V.; "Six novel tachykinin and bombesin-related
                                                                                  RANATENSIN PRECURSOR
                                                                                                                                                                                                                                                                                  SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                  TISSUE=Skin;
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                                                                                                                                                                                                                                                                                                                Bombesin
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| QWAVGH 7
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TE; PS00257; BOMBESIN;
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5; Conserv
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(Rel. 09, Last seq
(Rel. 37, Last ann
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   Helin-Davis
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annotation
                                                    Neobatrachia;
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Pred. No.
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Pred.
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AMIDATION.
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9.3e+04;
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a; Ranoidea;
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SIGNAL
This SWISS-PROT entry is copyright: It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBI outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in remodified and this statement is not removed. Usage by and for come entities requires a license agreement (See http://www.isb::doi:10.1016/j.j.com.com.send an email to license@isb-sib.ch).
                                                                                                                                             Doignon F., Biteau N., Crouzet M., Aigle "The complete sequence of a 19,482 bp seg arm of chromosome II from Saccharomyces c
                                                                                                                                                                                                                                                                                                            01-OCT-1994 (Rel. 30, Last sequence update) 15-JUL-1998 (Rel. 36, Last annotation updat HYPOTHETICAL 26.1 KDA PROTEIN IN POP4-SHM1 YBR261C OR YBR1729.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through a collaboration the Swiss Institute of Bioinformatics and the EMMI outstat the European Bioinformatics Institute. There are no restrictions on use by non-profit institutions as long as its content is in no modified and this statement is not removed. Usage by and for common modified and this statement is not removed.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Molecular cloning of cDNAs encoding the human bombesin-like peptide neuromedin B. Chromosomal localization and comparison to cDNA.. encoding its amphibian homolog ranatensin.";
J. Biol. Chem. 263:13317-13323(1988).
                                                                                                                                                                                                                                                                             Saccharomyces cerevisiae (Baker's yeast).
Eukaryota; Fungi; Ascomycota; Saccharomyc
                                                                                                                                                                                                                                                                                                                                                                      P38340;
01-OCT-1994 (Rel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  entities requires a license agreement (See http://www.isb-silor send an email to license@isb-sib.ch).
                                                                                                                                                                                                            STRAIN=S288C
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                                                                                                                                                                                                                                                                   Saccharomycetales;
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Pfam; PF02044; Bombesin;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; M21552; AAA49533.1;
                                                                                                                                Yeast 9:189-199(1993).
                                                                                                                                                                                           MEDLINE=93220397; PubMed=8465606;
                                                                                                                                                                                                                                                    NCBI_TaxID=4932;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Isolation and structure of a new vasoactive polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Nakajima T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE OF 48-58.
                                                                                                                     ·!- SIMILARITY:
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SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               family; Amidation;
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48
58
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AA;
                                                                                                                                                                                                                                                                                                                                                                                                   STANDARD;
                                                                                                                  TO S.POMBE SPAC16E8.14C
                                                                                                                                                                                                                                                                 Ascomycota; Saccharon; Saccharonycetaceae;
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AMIDATION (G-59 PROVIDE AMIDE G)
09194FFD0E7436DE CRC64;
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01-FEB-1995
01-FEB-1995
15-JUL-1999
       DOMAIN
                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                   DOMAIN
                                                 CHAIN
                                                                SIGNAL
                                                                           Pfam; PF00047; ig; 2.
Immunoglobulin domain; Cell
                                                                                                        FlyBase; FBgn0001257; ImpL2.
InterPro; IPR003006; -.
                                                                                                                                     EMBL; L23066; AAB59251.1; -. HSSP; P56276; 1TLK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
STRAIN-CANTON-S; TISSUB-Embryo;
MEDLINE-94139565; PubMed-8306886;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta; Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; MuscEphydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-FEB-1995 (Rel. 31, Created)
01-FEB-1995 (Rel. 31, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation updat
NEURAL/ECTODERMAL DEVELOPMENT FACTOR IMP-L2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       implicated in neural and ectodermal development in Drosophila."; Development 119:1237-1250(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Garbe J.C., Yang E., Fristrom J.W.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IML2_DROME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; x70529; CAA49926.1;
EMBL; Z36130; CAA85224.1;
PIR; S32963; S32963
SGD; S0000465; YBR261C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Drosophila melanogaster (Fruit fly).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      'IMP-L2: an essential secreted immunoglobulin family member
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Hypothetical protein.
SEQUENCE 232 AA; 26068
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nes 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                               FUNCTION: ESSENTIAL DEVELOPMENTAL ROLE DURING EMBRYOGENESIS, PARTICULAR THE NORMAL DEVELOPMENT OF THE NERVOUS SYSTEM. MAY INVOLVED IN SOME ASPECT OF CELL ADHESION.
SUBCELLULAR LOCATION: EXTRACELLULAR.
TISSUE SPECIFICITY: DETECTED IN SEVERAL SITES INCLUDING THE VENTRAL NEUROECTODERM, THE TRACHEAL PITS, THE PHARYNX AND OESOPHAGUS, AND SPECIFIC NEURONAL CELL BODIES, WHERE IT IS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2 QWAVXHL 8
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SIMILARITY: CONTAINS 2 INMUNOGLOBULIN-LIKE C2-TYPE DOMAINS
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L2.
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IG-LIKE C2-TYPE DOMAIN.
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Pred. No.
                                           NEURAL/ECTODERMAL DEVELOPMENT FACTOR IMP
                                                             POTENTIAL
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                                                                        Signal.
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16;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2,
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                                                                                                                                                                                                                                                                                                                                        CELLULAR BLASTODERM
SUBSEQUENT
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Best Local Similarity
Watches 5; Conserv
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                                            Matches
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Best Local
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P38440;
01-OCT-1994 (Rel.
01-OCT-1994 (Rel.
01-OCT-1994 (Rel.
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SEQUENCE
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Submitted (FEB-1994) to the EMBL/GenBank/DDBJ databases.
-i- FUNCTION: INHIBIN IS A GONADAL GLYCOPEPTIDE THAT INHIBITS
SECRETION OF FOLLITROPIN BY THE PITUITARY GLAND.
-i- SUBUNIT: DIMERIC, LINKED BY ONE OR MORE DISULFIDE BONDS.
                                                                                                                                                                                                                                                        use by non-profit institutions as long as its content modified and this statement is not removed. Usage by an entities requires a license agreement (See http://www.isb-or send an email to license@isb-sib.ch).
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DISULFID
VARIANT
SEQUENCE
                                                                                                                                                                                                                                                                                                  This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                        Follitropin
                                                                                                                                                                                                      PROSITE; PS00250;
                                                                                                                                                                                                              InterPro; IPR001839; -.
Pfam; PF00019; TGF-beta; 1.
                                                                                                                                                                                                                                    EMBL; L28815; AAA31553.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mammalia; Eutheria;
Bovidae; Caprinae; (
NCBI_TaxID=9940;
                                                                                                                                                                                                                                                                                                                                                                                                                                          TISSUE=Ovary;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ovis aries (Sheep).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INHA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
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 74
                                                       Local
                     2 QWAVXHL
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                                                                                                                                                                                                                                                                                                                                               SUBUNIT: DIMERIC, LINKED BY ONE OR MORE DISI
INHIBIN A IS A DIMER OF ALPHA AND BETA-A.
INHIBIN B IS A DIMER OF ALPHA AND BETA-B.
SIMILARITY: BELONGS TO THE TGF-BETA FAMILY.
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RWAVLHL 80
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                                           Similarity 5; Conserv
                                                                                                                                  161
190
194
226
                                                                                                                                                                                          inhibitor;
                                            Conservative
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191
173
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262
264
226
226
45
167
28754
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                                                                                                                                                                                                    TGF_BETA_1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 30, Created)
30, Last sequence update)
30, Last annotation update)
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240
173
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                                                     81.6%;
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                                                                                                                                                                                        Contraceptive; Hormone;
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BY SIMILARITY.
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INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POTE
N-LINKED (GLCNAC. . . .) (POTE
                                         Score 31; DB
Pred. No. 19;
1; Mismatches
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Pred. No.
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V -> I.
                                                                                                  D880E9AB156B6656 CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   265
                                                  DB
. 19;
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18;
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                                                               Length 265
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                                       Gaps
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RESULT 10
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IIA_BY
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Best Local Similarity
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SEQUENCE FROM N.A.
TISSUE=Follicular fluid;
TISSUE=Follicular fluid;
TISSUE=Follicular fluid;
MEDLINE=66205842; PubMed=3458167;
MEDLINE=66205842; PubMed=3458167;
Forage R.G., Ring J.M., Brown R.W., McInerney B.V., Cobon G.S.,
Foragen R.P., Robertson D.M., Morgan F.J., Hearn M.T.W., Findlay J.K.,
Gregson R.P., Robertson D.M., Morgan F.J., Hearn M.T.W., Findlay J.K.,
Wettenhall R.E.H., Burger H.G., de Kretser D.M.;
"Cloning and sequence analysis of cDNA species coding for the two
subunits of inhibin from bovine follicular fluid.";
subunits of inhibin from bovine follicular fluid.";
subunits of inhibin from bovine follicular fluid.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IHA_BOVIN
P07994;
01-AUG-1988
                                                                                                                                                                                                                                                                                                                                     Pfam; PFUUUL,
PRINTS; PRO0669; INHIBINA.
PROSITE; PS00250; TGF_BETA_1; 1.
PROSITE; PS00250; TGF_BETA_1; 1.
                                                                                                                                                                                           DISULFID DISULFID DISULFID DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; M13273; AAA97414.1; -. EMBL; A14416; CAA01156.1; -. EMBL; U16237; AAB60262.1; -. PIR; A25732; A25732.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for con
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -i- FUNCTION: INHIBIN IS A GONADAL GLYCOPEPTIDE THAT INHIBITS SECRETION OF FOLLITROPIN BY THE PITUITARY GLAND.
-i- SUBUNIT: DIMERIC, LINKED BY ONE OR MORE DISULFIDE BONDS.
INHIBIN A IS A DIMER OF ALPHA AND BETA-A.
INHIBIN B IS A DIMER OF ALPHA AND BETA-B.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Genomic cloning and sequence analyses of the bovine alpha-, beta and beta B-inhibin/activin genes. Identification of transcription factor AP-2-binding sites in the 5'-flanking regions by DNase I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mammalia; Eutheria; Ce
Bovidae; Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro; IPR001839; -. InterPro; IPR002405; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=95112839; PubMed=7813465;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SIMILARITY: BELONGS TO THE TGF-BETA FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Biochem. 226:751-764(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 the Swiss Institute of Bioinformatics
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Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (Rel. 08, Created)
(Rel. 08, Last sequence up
(Rel. 35, Last annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cronin C.N., Martin F.;
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321
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                                                                                                                38809
        81.6%;
71.4%;
                                                                                                                                                                                                                                                                                                                                                                                  Contraceptive; Hormone; Glycoprotein; Signal
                                                                                                                W.
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BY SIMILARITY.
BY SIMILARITY.
                                                                                                             INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POT
N-LINKED (GLCNAC. . .) (POT
; FBBF385DD1EFEF46 CRC64;
        Score
Pred.
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        31;
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25;
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01-APR-1988
01-FEB-1996
    CARBOHYD
CARBOHYD
CONFLICT
CONFLICT
                                                                                      DISULFID DISULFID DISULFID DISULFID
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P04087;
                                                                                                                                                                                                       SIGNAL
                                                                                                                                                                                                                                                                                                                                                                           EMBL; M13980; AAA31057.1;
EMBL; X03265; CAA27019.1;
PIR; A01392; WFPGA.
PIR; A25947; A25947.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       use by non-profit institutions as long a
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Mason A.J., Hayflick J.S., Ling N., Esch F., Ueno Mason A.J., Hayflick J.S., Ling N., Esch F., Ueno Medillemin R., Niall H., Seeburg P.H.;
"Complementary DNA sequences of ovarian follicular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nature 318:659-663(1985).

1- FUNCTION: INHIBIN IS A GONADAL GLYCOPEPTIDE THAT INHIBIN-
SECREFICO OF FOLLITROPIN BY THE PITUITARY GLAND.

-1- SUBUNIT: DIMERIC, LINKED BY ONE OR MORE DISULFIDE BOND:
                                                                                                                                                                                  CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TISSUE=Ovarian follicular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=86287350; PubMed=3016724;
Mayo K.E., Cerelli G.M., Spiess J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa;
Mammalia; Eutheria;
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                                                                       EMBL; X69618; CAA49324.1; --
EMBL; M95525; AAA39314.1; --
EMBL; M95526; AAA39314.1; --
EMBL; X55957; CAA39424.1; --
PIR; S31439; S31439.
PIR; JC1106; JC1106.
MGD; MGI:96569; Inha.
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STRAIN-SWISS WEBSTER;
MEDLINE-91071531; PubMed=2253839;
Tone S., Katoh Y., Fujimoto H., Togashi S.,
Higashinakagawa T.;
"Expression of inhibin alpha-subunit gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        [2]
SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
MEDIINE-92337610; PubMed-1632772;
Su J.G.W., Hsueh A.J.W.;
"Characterization of mouse inhibin alpha gene and its promoter.";
"Characterization of mouse inhibin alpha gene and its promoter.";
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-:- FUNCTION: INHIBIN IS A GONADAL GLYCOPEPTIDE THAT I SECRETION OF FOLLITROPIN BY THE PITUITARY GLAND. C ACTIVIN ACTIVATES THE SECRETION OF FOLLITROPIN.

-:- SUBBUNT: DIMERIC, LINKED BY ONE OR MORE DISULFIDE
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01-FEB-1994
           InterPro; IPR001839; -.
InterPro; IPR002405; -.
Pfam; PF00019; TGF-beta;
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MEDLINE-93321614; PubMed-8330535;
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Mammalia; Eutheria;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Development 117:711-723(1993).
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                                                                                                                                                                                                                                           and this statement is not removed. requires a license agreement (See an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                 non-profit institutions as long
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(Rel. 28, Last sequence up)
(Rel. 34, Last annotation)
                                                                                                                                                                                                                                                                                                        Swiss Institute of Bioinformatics and the E Bioinformatics Institute. There are no rest profit institutions as long as its content.
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RESULT
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P17490;
01-AUG-1990 (Rel. 15, Created)
01-AUG-1990 (Rel. 15, Last sequence update)
01-NOY-1995 (Rel. 32, Last annotation updat
01-NOY-1995 (Rel. 32, Dast annotation updat
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CARBOHYD
                                                                                                                                                                            analysis of rat ovarian inhibins.";
Mol. Endocrinol. 1:388-396(1987).
-!- FUNCTION: INHIBIN IS A GONADAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CONFLICT
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CONFLICT
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                                                                                                                                                                                                                                                         MEDLINE=90331931; PubMed=2484214; Esch F.S., Shimasaki S., Cooksey Ying S.Y., Ueno N., Ling N.;
                                                                                                                                                                                                                                                                                                                                                        MEDLINE-91042598; PubMed=3153478; Woodruff T.K., Meunier H., Jones P.B.C., Hsueh A.J.W., Woodruft T.K., Meunier H., Jones P.B.C., Hsueh A.J.W., "Rat inhibin: molecular cloning of alpha- and beta-subu complementary deoxyribonucleic acids and expression in confidence of the complementary deoxyribonucleic acids and expression in confidence of the complementary deoxyribonucleic acids and expression in confidence of the complementary decreases a confidence of the confidence of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Analysis of the 5'-flanking regions of rat inhibin alphabeta-B-subunit genes suggests two different regulatory mechanic Endocrinol. 3:1914-1925(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=90190649; Pub
Feng Z.-M., Li Y.-P.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TISSUE=Liver;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Rodentia;
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PROSITE; PS00250;
                                                                                                                                                                                                                                      'Complementary deoxyribonucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               176 RWAVLHL 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 13
                                                   FUNCTION: INHIBIN IS A GONADAL GLYCOPEPTIDE THAT I SECRETION OF FOLLITROPIN BY THE PITUITARY GLAND. C ACTIVIN ACTIVARES THE SECRETION OF FOLLITROPIN. SUBUNIT: DIMERIC, LINKED BY ONE OR MORE DISULFIDE INHIBIN A IS A DIMER OF ALPHA AND BETA-B.

INHIBIN B IS A DIMER OF ALPHA AND BETA-B.

TISSUE SPECIFICITY: ALPHA- AND BETA-B-SUBUNITS ARE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2 QWAVXHL 8
            TISSUE SPECIFICITY: ALPHA- AND BETA-B-SUBUI PREDOMINANT FORMS FOUND IN RAT TESTIS. SIMILARITY: BELONGS TO THE TGF-BETA FAMILY
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; TGF_BETA_1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PubMed=2628729;
-P., Chen C.-L.C.;
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N-LINKED (GLCNAC. . ) (POTE
A -> R (IN REF. 2).
V -> G (IN REF. 2 AND 3).
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SWI6_
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Matches 5; Conser
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Kluyveromyces lactis (Yeast).
Eukaryota; Fungi; Ascomycota; S.
Saccharomycetales; Saccharomyce
NCBI_TaxID=28985;
[1]
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EMBL; M32754; AAA41437.1; J-
EMBL; M36453; AAA41435.1; --
PIR; A40905; A40905.
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PIR; A40056; A40056.
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                                                                  P40418;
01-FEB-1995 (Rel. 31, Created)
01-FEB-1995 (Rel. 31, Last sequence update)
01-OCT-2000 (Rel. 40, Last annotation update)
REGULATORY PROTEIN SWI6 (CELL-CYCLE BOX FACTOR,
ACTING ACTIVATOR OF HO ENDONUCLEASE GENE) (MBF:
                                                                                                                                                                                                                                                                                                                  _KLULA
                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
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PROSITE; PS00250; TGF_BETA_1; 1.
FOllitropin inhibitor; Contracep
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CARBOHYD
                                                                                                                                                       SEQUENCE FROM N.A. MEDLINE=93383264; PubMed=8372350;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro; IPR001839; -. InterPro; IPR002405; -.
                                                                                                                                                                                                                                                                                                       SWI6_KLULA
                                                                                                                                                                                                                                                                                                                                                           176 RWAVLHL 182
                                                                                                                                                                                                                                                                                                                                                                                2 QWAVXHL 8
                              BOX (CCB).
SUBGUIT: MBF CONTAINS SWI6 AND MBP1
SIMILARITY: STRONG, TO S. POMBE CDC1
SIMILARITY: CONTAINS 2 ANK REPEATS.
SWISS-PROT entry is copyright. It is produced through a collaboration sen the Swiss Institute of Bioinformatics and the EMBL outstation -
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CDC10.
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P23260;
01-NOV-1991 (Rel. 2
01-NOV-1991 (Rel. 2
01-APR-1993 (Rel. 2
                                                                                                                                                                                                MOD_RES
SEQUENCE
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-!- SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANAT FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PROSITE; PS50088; ANK_REPEAT; 2.
PROSITE; PS50297; ANK_REP_REGION; 2.
Transcription regulation; DNA-binding;
REPEAT 286 315 ANK 1.
REPEAT 422 451 ANK 2.
SEQUENCE 769 AA; 86669 MW; E3A5328H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rana ridibunda (Laughing frog) (Marsh frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Amphibia; Batrachia; Anura; Neobatrachia; Ranoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; X74292; CAA52345.1; PIR; S36657; S36657.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE-Brain;
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                                                                                                                                                                                                                                          Bombesin family; Amidation.
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InterPro; IPR000874;
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WAVGHL
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Result
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38
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F;42-55/Product: bombesin #status experimental <MAT> F;56-107/Domain: carboxyl-terminal propeptide #status predicted <CPT> F;42/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) F;42/Modified site: amidated carboxyl end (Met) (amide in mature form)
                              В
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A; Introns: 90/1; 126/3; 166/2
A; Note: F14P22.40
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C; Keywords:
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A; Residues: 1-119 <SPI>
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A;Title: Cloning of cDNAs encoding amphibian bombesin: evidence A;Reference number: A39261; MUID:91088602
A;Accession: A39261
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A; Residues: 1-174 <DAN>
A; Cross-references: EMBL: AL137082
                                                                                                                                                                                                                                                                                                                  A; Reference number: Z23011
A; Accession: T45665
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Date: 04-Feb-2000 #sequence_revision 04-Feb-2000 #text_change 04-Feb-2000
Cession: T45665
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ate: 18-Oct-1991 #sequence_revision 18-Oct-1991 #text_change 24-Sep-1999
cession: A39261
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                                                                                                                                                                                                                                                                                                                                                itted to the Protein Sequence Database, January 2000
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A; Molecule type: protein A; Residues: 1-13 <SIM>
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R;Anastasi, A.; Erspamer, V.; Endean, R. Experientia 31, 510-511, 1975
A;Title: Aminoacid composition and sequence of litorin, A;Reference number: S07204; MUID:75187011
A;Accession: S07204
A;Accession: S07204
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Molecule type: protein
A; Residues: 1-9 < ANA>
A; Residues: 1-9 < ANA>
C; Superfamily: gastrin-releasing peptide
C; Keywords: amidated carboxyl end; neuropeptide; pyroglutamic acid
E; 1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
E; 9/Modified site: amidated carboxyl end (Met) #status experimental
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                                                                                                                                                 bombesin-like peptide L - frog (Pseudophryne guentheri)
C;Species: Pseudophryne guentheri
C;Date: 30-Jan-1993 #sequence_revision 30-Jan-1993 #text_change 18-Aug-2000
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C;Date: 12-Feb-1993 #sequence_revision 12-Mar-1993 #text_change | H / ... | 2011.
C;Accession: S07204
C;Accession: S07204
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A;Introns: 23/1; 47/2; 83/3; 114/3; 151/1; 187/2; 229/3; 257/3; C;Superfamily: Caenorhabditis elegans hypothetical protein F59GJ
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A;Experimental source: strain Bristol N2; clone F59G1
A; Reference number: A60409; A; Accession: A60409
                            R;Simmaco, M.; Severini, C.; De Biase, D.; Barra, D.; Bossa, Peptides 11, 299-304, 1990
A;Title: Six novel tachykinin- and bombesin-related peptides A;Reference number: A60409; MUID:90287814
                                                                                                                         C; Accession: A60409
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A; Residues: 1-353 <LAT>
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A; Experimental source: C; Genetics:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N.Krane, I.M.; Naylor, S.L.; Helin-Davis, D.; Chin, W.W.; Spindel, E.R. J. Biol. Chem. 263, 13317-13323, 1988
A;Title: Molecular cloning of cDNAs encoding the human bombesin-like peptide neuromedin A;Reference number: A92667; MUID:88330837
A;Accession: B28945
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C;Keywords: amidated carboxyl end; hormone; neuropeptide; pyroglutamic acid
F;1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
F;13/Modified site: amidated carboxyl end (Met) #status experimental
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                                                                                                                                                                                                                                               A; Molecule type: DNA
A; Residues: 1-95 <STO>
                                                                                                                                                                                                                                                                                                                  over, C.K.; Pham, X.Q.; Erwin, A.L.; Mizoguchi, S.D.; Warrener, An, S.; Yuan, Y.; Brody, L.L.; Coulter, S.N.; Folger, K.R.; Kas, F.; Lory, S.; Olson, M.V.

Nature 406, 959-964, 2000

A;Title: Complete genome sequence of Pseudomonas aeruginosa PAO1, ar A; Reference number: A82950; MUID:20437337
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A; Residues: 1-82 <KRA>
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C;Species: Rana pipiens (northern leopard frog)
tte: 30-Jun-1989 #sequence_revision 30-Jun-1989 #text_change 24-Sep-1999
cession: B28945
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A;Cross-references: EMBL:X70529; NID:g1907246; PIDN:CAA49926.1; R;Aigle, M.; Baclet, M.C.; Barthe, C.; Biteau, N.; Crouzet, M.; submitted to the Protein Sequence Database, August 1994 A;Reference number: S45940 A;Accession: S46142
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Yeast 9, 189-199, 193
A;Title: The complete sequence of a 19,482 bp segment located (...)
A;Reference number: S29348; MUID:93220397
A;Accession: S32963
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A; Residues: I-183 <WHI>
A; Cross references: GB: AE001862;
A; Experimental source: strain R1
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S.; Smith, H.O.; Venter, J.C.; Fraser, C.M.
Science 286, 1571-1577, 1999
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C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999
C;Accession: A75605
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C; Superfamily:
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A; Residues: 1-232 < AIG>
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C; Superfamily: Deinococcus radiodurans hypothetical protein DRA010
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f.; Zalewsk
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hypothetical protein 13E11.350 [imported] -

Neurospora crassa

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Nature 406, 151-157, 2000
A;Title: The genome sequence of the plant pathogen Xylella fastidiosa A;Reference number: A82515; MUID:20365717
A;Note: for a complete list of authors see reference number A59328 bel A;Accession: F82558
A;Status: preliminary
                                                                                              C;Accession: F82558
R;anonymous, The Xylella fastidiosa Consortium of the Organization for Nucleotide Sequer Nature 406, 151-157, 2000
                                                                                                                                                                                  lipopolysaccharide core biosynthesis protein xF2434 [imported] - Xylella fastidiosa C:Species: Xylella fastidiosa C:Date: 18-Aug-2000 #sequence_revision 20-Aug-2000 #text_change 20-Aug-2000
                                                                                                                                                                                                                                                                                                                                                            B
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cysteine proteinase (EC 3.4.22.-) CP1 precursor - Trichomonas vaginalis
C;Species: Trichomonas vaginalis
C;Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 04-Feb-2000
C;Accession: S41427
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                                                                                                                                                                                                                                                                  F82558
                                                                                                                                                                                                                                                                                        RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Molecule type: mRNA
A;Residues: 1-309 <MAL>
A;Cross_references: EMBL:X77218; NID:g452291; PIDN:CAA54435.1; PID:g452292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Reference number: S41425
A; Accession: S41427
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A; Introns: 213/2
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A;Experimental source: cosmid contig 13E11; strain 74
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A; Residues: 1-256 <SCH>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Gene: NCSP:13E11.350
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Superfamily: papain riskeywords: cysteine proteinase; hydrolase; keywords: cysteine proteinase; hydrolase; l-89/Domain: signal sequence #status predicted <SIG>-90-309/Product: cysteine proteinase CPI #status predicted <MAT>-4,254,274/Active site: Cys, His, Asn #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local
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nes 5; Conserv
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83.3%;
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71.4%;
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Pred. No. 39;
0; Mismatches
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                                                reference number A59328 below
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A;Cross-references: GB:AE004052; GB:AE003849; NID:g9107617; PIDN:AA: 233
A;Experimental source: strain 9a5c
R;Simpson, A.J.G.; Reinach, F.C.; Arruda, P.; Abreu, F.A.; Acencio, M.; Alicien.
Briones, M.R.S.; Bueno, M.R.P.; Camargo, A.A.; Camargo, L.E.A.; Carraro, D. T.; Cuirer as-Neto, E.; Docena, C.; El-Dorry, H.; Facincani, A.P.; Ferreira, A.J.S.
submitted to GenBank, June 2000
A;Authors: Ferreira, V.C.A.; Ferro, J.A.; Fraga, J.S.; Franca, S.C.; Franco, M.J.
J.D.; Junqueira, M.L.; Kemper, E.L.; Kitajima, J.P.; Krieger, J.E.; Kuramae, E.E.; L.
Chado, M.A.; Madeira, A.M.B.N.; Madeira, H.M.F.; Marino, C.L.; Marqu.'s, M.V.; M.; Chado, M.A.; Madeira, A.M.; M.M.; Marino, C.L.; Marqu.'s, M.V.; M.; Chado, M.A.; Madeira, H.M.F.; Marino, C.L.; Marqu.'s, M.V.; M.; Chado, M.A.; Madeira, H.M.F.; Marino, C.L.; Marqu.'s, M.V.; M.; Chado, M.A.; Madeira, M.A.; M.S.; Marino, C.L.; Marqu.'s, M.V.; M.; Chado, M.A.; Madeira, M.A.; M.S.; Marino, C.L.; Marqu.'s, M.V.; M.; Chado, M.A.; Machins, E.M.F.; Marshuma, A.Y.; Menok, C.F.M.; Miracca, E.C.; Miyaki, C.; F.G.; Nunes, L.R.; Oliveira, M.A.; de Oliveira, M.C.; de Oliveira, R.C.; Palmicci, Rodrigues, V.; Rosa, A.J. de M.; de Rosa Jr., V.E.; de Sa, R.G.; Santelli, R.V.; Sawa A;Authors: da Silva, A.C.; da Silva, F.R.; da Silva, F.R.; da Silva, J.; Vettore, A.L. A;Reference number: A59328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         R; Waites, R.; Selvadurai, H.R.; Oliver, I.R.; Hudson, A. Cell 93, 779-789, 1998
A;Title: The PHANTASTICA gene encodes a MYB transcription factor involved in A;Reference number: 218662; MUID:98292176
A;Accession: T17027
                                                                                                                                                                                                                                                            C;Superfamily: unassigned myb DNA-binding repeat proteins; myb DNA-binding repear C;Reywords: transcription factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C;Species: Antirrhinum majus (garden snapdragon)
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-19
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                                                                                                                                                                                                                                                                                                                                                                                         A;Cross-references: EMBL:AJ005586; NID:g3183616; PIDN:CAA06612.1; PID:g3183617
A;Experimental source: cultivar JI.98; inflorescence
                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Molecule type: mRNA
A; Residues: 1-357 <WA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Status: preliminary; translated from GB/EMBL/DDBJ
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    Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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1: /cgn2_6/ptodata/2/iaa/5A_COMB.pep:*
2: /cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
3: /cgn2_6/ptodata/2/iaa/6A_COMB.pep:*
4: /cgn2_6/ptodata/2/iaa/6B_COMB.pep:*
5: /cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*
6: /cgn2_6/ptodata/2/iaa/backfiles1.pep:*
   BLOSUM62
Gapop 10.0 ,
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38
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Copyright (c) 1993 - 2000
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US-08-168-390-11
US-08-337-27-9
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5217955-34
US-07-619-747B-1
US-07-619-747B-2
US-07-619-747B-9
US-07-619-747B-10
US-07-619-747B-12
US-07-619-747B-12
US-07-619-747B-15
US-07-619-747B-15
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2.567 Million cell updates/sec
Sequence 12, Appl patent No. 5217955
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RESULT 1 US-08-168-390-1: Sequence 12, Patent No. 56; General INFO APPLICANT: APPLICANT: APPLICANT: APPLICANT: APPLICANT: APPLICANT: COMPUTER R: COUNTRY: ZIP: COMPUTER R: CURRENT APPLICANT TILING D. COMPUTER R: APPLICAT TILING D. COMPUTER R: APPLICAT TILING D. COMPUTER R: SOFTWARE CURRENT APPLICAT FILING D. CLASSIFIL ATTORNEY/AP REFERENCE TELEFAX: INFORMATION SEQUENCE C. LENGTH: SEQUENCE C. LENGTH: TYPE: NAME/KEY LOCATION OTHER IN	* 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
Application 220955 SRMATION: RAIGHT, MA RAIG	35 92.1 36 92.1 37 92.1 38 92.1 38 92.1 38 92.1 39 92.1 30
tha tha Kazayuki Kaza	1 US-07-619-747B-28 1 US-07-619-747B-28 1 US-07-619-747B-39 1 US-07-619-747B-31 1 US-07-619-747B-32 1 US-07-619-747B-33 1 US-07-619-747B-33 1 US-07-619-747B-34 1 US-07-619-747B-36 1 US-07-619-747B-36 1 US-07-619-747B-36 1 US-07-619-747B-37 1 US-07-619-747B-39 1 US-07-619-747B-39 1 US-07-619-747B-39 1 US-08-031-325A-37 1 US-08-263-905-6 1 US-08-263-905-6 1 US-08-263-905-6
Peptide Antananists 1 residue chemical end caps." sition 6	Sequence 17, 4pp. Sequence 28, Appl. Sequence 10, Appl. Sequence 12, Appl. Sequence 22, Appl. Sequence 34, 4ppl.

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RESULT 3
5217955-36
5217955-36
APPLICANT: aBOGDEN, ARTHUR E.; MOREAU, JACQUES-PIERRE TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE; OF BOMBESIN, GRP, LITORIN OR NEUROMEDIN
NUMBER OF SEQUENCES: 42
CURRENT APPLICATION DATA:
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Best Local Similarity
"~+~hes 6; Conserv:
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5217955-35
; Patent No. 5217955
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Best Local Similarity
""" 6; Conserv
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                                                  Query Match
Best Local Similarity
Matches 6; Conserva
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CURRENT APPLICATION DATA:
                                                                                                                                                                                                                   APPLICATION NUMBER: US/
FILING DATE: 09-MAY-1990
PRIOR APPLICATION DATA:
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FILING DATE: 09-MAY-1990
PRIOR APPLICATION DATA:
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FILING DATE: 21-NOV-1989
APPLICATION NUMBER: 408,125
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LOCATION:
                                                                                                                                      LENGTH: 8
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FILING DATE: 21-NOV-1989
APPLICATION NUMBER: 408,125
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QWAVAHL 8
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85.7%;
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residue comprises an ethyl ester."
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                                                                Score 36; DB 6;
Pred. No. 1.5e+05;
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Pred. No. 1.5e
0; Mismatches
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                                                   Mismatches
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1.5e+05;
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RESULT 4
5217955-13
;PATCHOIT ON. 5217955
; APPLICANT: aBOGDEN, ARTHUR E.;MOREAU, JACQUES-PIERRE
; TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG
;OF BOMBESIN, GRP, LITORIN OR NEUROMEDIN
;NUMBER OF SEQUENCES: 42
; NUMBER OF SEQUENCES: 42
                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 6
5217955-15
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5217955-14
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PATENT NO. 521795
PATENT NO. 5
                                                                                                                                                                                                                          APPLICANT: aBOGDEN, ARTHUR E.; MOREAU, JACQUES-PIERRE TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG OF BOMBESIN, GRP, LITORIN OR NEUROMEDIN NUMBER OF SEQUENCES: 42
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Matches 6; Conserv
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APPLICATION NUMBER: US/08/52
FILING DATE: 09-MAY-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 440,039
FILING DATE: 21-NOV-1989
APPLICATION NUMBER: 408,125
                                                                      CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/520,225
FILING DATE: 09-MAY-1990
PRIOR APPLICATION DATA:
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FILING DATE: 09-MAY-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 440,039 FILING DATE: 21-NOV-1989
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FILING DATE: 21-NOV-1989
APPLICATION NUMBER: 408,125
FILING DATE: 15-SEP-1989
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Pred. No. 1.5e+05;
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Pred. No. 1.5e+05;
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5217955-22
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Best Local Similarity
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APPLICANT: ABOGDEN, ARTHUR E.; MOREAU, JACQUES-PIERRE APPLICANT: TREATMENT OF CANCER WITH PEPTIDE ANALOG BOMBESIN, GRP, LITORIN OR NEUROMEDIN
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Best Local Similarity by...
"hatches 6; Conservative
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Patent No. 5620955
GENERAL INFORMATION:
                                                                                                           ZIP: 20005
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                APPLICANT: Knight, Martha
APPLICANT: Takahashi, Kazayuki
APPLICANT: Chandrasekhar, Bhaskar
TITLE OF INVENTION: Bombesin/Gastrin Releasing Peptide Antagonists
CORRESPONDENCES: 16
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: US/08/520,225
FILING DATE: 09-MAY-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 440,039
FILING DATE: 21-NOV-1989
               CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: Goldstein. Jorgan
                                                         SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/168,390
FILING DATE: Herewith
CTASSITTON: 520
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CURRENT APPLICATION DATA:
                                                                                                                                                                                            COUNTRY: U
ZIP: 20005
                                                                                                                                                                                                                          CITY: Washington STATE: DC
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2 QWAVAHL 8
NAME: Goldstein, Jorge A. REGISTRATION NUMBER: 29,021
                                                                                                                                                                                                                                                       ADDRESSEE: Sterne, Kessler, Goldstein & Fox STREET: 1100 New York Avenue, Suite 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 9
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85.7%;
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; Pred. No. 1.5e
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Pred. No. 1
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1.5e+05;
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1.5e+05;
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US-08-337-127-9
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TELEX: 248636 SSK
INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
LENGTH: 8 amino acids
TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 9, Application US/08337127 Patent No. 5877277
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Best Local Similarity
Matches 6; Conser
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                                                                                                                                                                                                                                                                                COMPUTER: IBM PS/2 model 50z or 55SX
OPERATING SYSTEM: IBM P.C. DOS (Version SOPTWARE: WordPerfect (Version 5.0)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/337,127
                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE/DOCKET NUMBER: 08
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 371-2600
APPLICATION NUMBER: 07/
FILING DATE: 10/18/91
APPLICATION NUMBER: 07/
FILING DATE: 03/30/90
APPLICATION NUMBER: 07/
FILING DATE: 08/21/89
APPLICATION NUMBER: 07/07/89
APPLICATION NUMBER: 07/07/88
                                                                                                                                                                                                                       FILING DATE:
CLASSIFICATION: 530
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: MOTEAU, Jacques-Pierre
APPLICANT: Kim, Sum H.
TITLE OF INVENTION: OCTAPEPTIDE BOTTITLE OF INVENTION: ANALOGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LOCATION: 8
OTHER INFORMATION:
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CITY: Boston
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                                                                                                                                                                                                                                                                                                                                                                                                                                                       Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                                                                       U.S.A
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85.7%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note= "The amino-terminal residue
comprises one of several chemical end
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note= "The carboxy-terminal
residue comprises an ethyl ester.
                                                                                                                                 07/397,169
                     07/282,328
                                                                                              07/376,555
                                                                                                                                                                                                         07/779,039
                                                          07/317,941
                                                                                                                                                                      07/502,438
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Pred. No. 1
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1.5e+05;
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10/14/88

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RESULT 10
$217955-32
; PATENT NO. 5217955
; APPLICANT: ABOGDEN, ARTHUR E.; MOREAU, JACQUES-PIERRE
TITLE OF INVENTION: TREATMENT OF CANCER WITH PEPTIDE ANALOG
BOMBESIN, GRP, LITORIN OR NEUROMEDIN
NUMBER OF SEQUENCES: 42
CURRENT APPLICATION DATA:
CURRENT APPLICATION DATA:
RESULT 11
5217955-34
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Best Local Similarity
""+ hes 6; Conserva
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                                                                                                                                                                                                                                                                   SEQ ID NO:32:
                                                                                                                                          Query Match 92.3
Best Local Similarity 85.7
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: 07/204,171
FILING DATE: 06/08/88
APPLICATION NUMBER: 07/173,311
FILING DATE: 03/25/88
APPLICATION NUMBER: 07/100,571
FILING DATE: 09/24/87
ATTORNEY/AGENT INFORMATION:
NAME: Clark, Paul T.
REGISTRATION NUMBER: 30,162
REFERENCE/DOCKET NUMBER: 00537/00900D
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 542-5070
TELEFAX: (617) 542-8906
                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US/08/520,225 FILING DATE: 09-MAY-1990 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEFAX: (617) 542-8906
TELEX: 200154
FORMATION FOR SEQ ID NO: 9:
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OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
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STRANDEDNESS:
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APPLICATION NUMBER: 07
FILING DATE: 06/16/88
                                                                                                                                                                                                                                                LENGTH: 8
                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: 440,039
FILING DATE: 21-NOV-1989
APPLICATION NUMBER: 408,125
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85.7%;
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85.7%;
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                                                                                                                                                         Score 35; DB 6;
Pred. No. 1.5e+05;
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                                                                                                                                           Mismatches
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Best Local Similarity
Thes 6; Conserve
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US-07-619-747B-1
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CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;Patent No. 5217955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; FILING DATE: 15-SEP-1989; SEQ ID NO:34:
                                                                                                    REGISTRATION NUMBER: 22,940
REFERENCE/DOCKET NUMBER: SHAL
TELECOMBUNICATION INFORMATION:
TELEPHONE: (908)494-5240
TELEPAS: 511642 BEPATELIN
INFORMATION FOR SEQ ID NO: 1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 1, Application US/07619747B Patent No. 5244883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US/08/520,225
FILING DATE: 09-MAY-1990
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                        OPERATING SYSTEM: DOS
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM: MEDIUM TYPE: 360K Di
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Cai, Ren Zhi
APPLICANT: Schally, Andrew V.
TITLE OF INVENTION: No. 5244883apeptide Bombesin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                    FILING DATE:
ATTORNEY/AGENT INFORMATION:
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      TOPOLOGY: U
                                                                                      SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY: US
ZIP: 70002
                                                                                                                                                                                                                                                                       APPLICATION NUMBER: FILING DATE: N/A APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: 440,039 FILING DATE: 21-NOV-1989 APPLICATION NUMBER: 408,125
                                                                                                                                                                                                                                                                                                                                           CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: U. FILING DATE: 19901129
                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER:
                                    STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CITY: Metairie
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Unknown
PE: peptide
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                                       Unknown
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85.7%;
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Pred. No. 1.5e+05;
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; OTHER INFORMATION:
; OTHER INFORMATION:
US-07-619-747B-2
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US-07-619-747B-2
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                 Query Match
Best Local Similarity
Watches 6; Conserve
                                                                                                                                                                                                                                                                        ATTORNEY/AGENT INFORMATION:
NAME: Behr, Omri M.
REGISTRATION NUMBER: 22,940
REFERENCE/DOCKET NUMBER: SHAL.
TELECOMMUNICATION INFORMATION:
TELEPHONE: (908)494-5240
TELEPHONE: 1-908-494-0428
TELEFAX: 1-908-494-0428
TELEFAX: 511642 BEPATEDIN
INFORMATION FOR SEQ ID NO: 2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 92.1%;
Best Local Similarity 85.7%;
Matches 6; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OPERATING SYSTEM: DOS 5.0
SOSTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
CLASSIFICATION: 514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Cai, Ren Zhi
APPLICANT: Schally, Andrew V.,
TITLE OF INVENTION: No. 5244883apeptide Bombesin
TITLE OF INVENTION: Antagonists
                                                                                                                                                                                                                                                           SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDIUM TYPE: 360K Di
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURE:
                                                                                                                                                                      FEATURE:
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                                                                                                                                                                                    MOLECULE TYPE:
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|||| ||
2 QWAVGHL 8
                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: FILING DATE: N/A APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY: U:
ZIP: 70002
                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CITY: Metairie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE: Dr. Andres
correct: 5025 Kawanne Avenue
                                                                                                                                                                                                    TOPOLOGY:
                                                                                                                                                                                                               STRANDEDNESS: Unknown
                                                                                                                                                                                                                                TYPE: AMINO
                                                                                                                                                                                                                                             LENGTH:
   2 QWAVXHL 8
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                                 Conservative
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                                                                                                                                                                                 peptide
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                                            92.1%;
85.7%;
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Position 8 is a reduced
isostere of named aminoacid
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 Mismatches

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Pred. No. 1.5e+05;
                                             Score 35; DB 1;
Pred. No. 1.5e+05;
                               Mismatches
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                               1; Indels
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US-07-619-747B-5
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                          Sequence 5, Application US/07619747B Patent No. 5244883 GENERAL INFORMATION:
APPLICANT: APPLICANT:
                                                                                                                                                                                                                                                                                                                                    FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ZIP:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STATE:
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Query Match
Best Local Similarity
6; Conserva
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GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OPERATING SYSTEM: DOS 5.
SOFTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION UMBER: US/O
FILING DATE: 19901129
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: NO.
FILING DATE: N/A
APPLICATION UMBER:
FILING DATE:
FILING DATE:
FILING DATE:
FILING DATE:
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                          ATTORNEY/AGENT INFORMATION:
NAME: Behr, Omr1 M
REGISTRATION UNBER: 22,940
REFERENCE/DOCKET NUMBER: SHAL
TELECOMMUNICATION INFORMATION:
TELEPHAN: 1908494-5240
TELEFAX: 1-908494-0428
                                                                                                                                                                                                                                                                                                                                            INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Cai, Ren un.
APPLICANT: Schally, Andrew V.,
APPLICANT: Schally, No. 5244883apeptide Bombesin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: NO
TITLE OF INVENTION: AN
NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
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MEDIUM TYPE: 360K Di
                                                                                                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                         MOLECULE TYPE:
                                                                                                                                                                      OTHER INFORMATION:
OTHER INFORMATION:
2 QWAVXHL 8
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2 QWAVGHL 8
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TELEX: 511642 BEPATEDIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CITY: Metairie
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STREET: 5025 Kawanne Avenue
                                                                                                                                                                                                                                                       STRANDEDNESS:
TOPOLOGY: Un
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 QWAVGHL 8
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                                                                    Conservative
                                                                                                                                                                                                                                                         Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IBM PC
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                                                                                                                                                                                                                                       peptide
                                                                                                                                                                                                                                                                         Unknown
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                                                                                                                                                                      Position 1 is 5F-D-Trp
Position 8 is a reduced
isostere of named aminoacid
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                                                                 Score 35; DB 1;
Pred. No. 1.5e+05;
0; Mismatches 1
                                                                                                   Length 9;
                                                                    Indels
                                                                    0;
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Cai, Ren Zhi Schally, Andrew V.,

iaps

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FILING DATE: 137041...

CLASSIFICATION: 514

PRIOR APPLICATION LOTA:
APPLICATION NUMBER: NO. 5244883e
FILING DATE: N/A
APPLICATION NUMBER: NO. 5244883e
FILING DATE: N/A
APPLICATION NUMBER: STANDED NOME N/A
APPLICATION NUMBER: 22,940
REFERENCE/DOCKET NUMBER: SHAL3.0-0
REGISTRATION NUMBER: 22,940
REFERENCE/DOCKET NUMBER: SHAL3.0-0
REFERENCE/DOCKET NUMBER: 340-028
TELEPAN: 1-908-494-028
TELEFAX: 1-908-494-028
TELEFAX: 1-908-494-0524
TELEFAX: 1-908-494-0528
TELE
Search completed: October 25, 2001, 11:23:57 Job time: 270 sec
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                                                                                                                                                                                                                                                                                        uery Match
st Local Similarity 85.,
*~hes 6; Conservative
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MEDIUM TYPE: 360K Diskette
COMPUTER: 1EM PC
OPERATING SYSTEM: DOS 5.0
SOSTWARE: WP 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/619,747B
FILING DATE: 19901129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE: peptide FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: No. 52444883apeptide Bombesin TITLE OF INVENTION: Antagonists NUMBER OF SEQUENCES: 40
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
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CITY: Metairie
STATE: Louisiana
COUNTRY: USA
ZIP: 70002
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2 QWAVGHL 8
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                                                                                                                                                                                                                                                                                                                                                                                   92.1%;
85.7%;
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Position 8 is a reduced
isostere of named aminoacid
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Maximum Match 100%
Listing first 45 summaries
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Perfect score:
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Maximum DB seq
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A_Geneseq_0601:*

1: /SIDS8/gcgdata/geneseq/geneseqp/AA1980.DAT:*
2: /SIDS8/gcgdata/geneseq/geneseqp/AA1981.DAT:*
3: /SIDS8/gcgdata/geneseq/geneseqp/AA1982.DAT:*
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7: /SIDS8/gcgdata/geneseq/geneseqp/AA1985.DAT:*
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9: /SIDS8/gcgdata/geneseq/geneseqp/AA1989.DAT:*
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21: /SIDS8/gcgdata/geneseq/geneseqp/AA1999.DAT:*
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length: 2000000000
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Gapop 10.0 , Gapext 0.5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       XQWAVXHL 8
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Nesult (Quely Match Length DB ID Description 1 36 94.7 7 10 AAP91147 Sequence of new ne 2 36 94.7 7 13 AAR20585 Antagonist of bomb 3 36 94.7 7 13 AAR32998 [D-Ala11]-bombesin 4 3 6 94.7 7 20 AAW94610 Bombesin/gastrin r 5 36 94.7 8 3 AAP20294 Bombesin analog pe 6 36 94.7 8 12 AAR11241 Linear litorin ana 8 36 94.7 8 13 AAR29155 Bombesin analogue 9 36 94.7 8 13 AAR29157 Bombesin analogue

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AAR14860	AAR12033	AAR11529	AAR11525	AAR11521	AAR11520	AAR08345	AAR04530	AAR04528	AAR04529	AAR04527	AAR04526	AAB72406	AAB08308	AAB08302	AAW92740	AAW50941	AAW64910	AAR28459	AAR28456	AAR14877	AAR11240	AAR11224	AAR04531	AAB48341	AAP96113	AAW51201	AAW51195	AAR40903	AAR14873	AAR14867	AAR14866	AAR14865	AAR11522
e chalo	n m	Ö.	of	3	Example of peptide	EC.	an.					sin an	Amino acid sequenc	Amino acid sequenc			ij	ij	Bombesin antagari	Peptid analome #	Linear Atorin ana	Linear litorin and	Non-cyclic analogu	/qastric	e of nev	derived	Peptide Jerived fr	Bombesin analoque		Peptide analogu #	Peptide anal #	Peptide analoque #	Example of peptide

ALIGNMENTS

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RESULT
AAP91147
AAP91147 standard; protein; 7 AA
                     06-JUN-1988;
                                                                                               Misc-difference
                                                                                                                      Misc-difference
                                                                                                                                             Misc-difference
                                                                                                                                                                  Bombesin antagonist; malignant disease; therapy; gastric ..
                                                                                                                                                                                  Sequence of new neuromedin C deriv.
                                                                                                                                                                                                  13-MAY-1990
22-DEC-1990
                                                                                                                                                                                                                         AAP91147;
     (ICIL ) IMPERIAL CHEM INDS PLC
                                    27-OCT-1988;
                                                   10-MAY-1989.
                                                                  EP315367-A.
                                                                                                                                                                                                  (first entry) (corrected)
                     88GB-0013355.
                                    88EP-0310094.
                                                                                                                                                    Location/Qualifiers
                                                                                                      /label=OTHER
/note="D-Ala"
                                                                                /note="Leu-OMe"
                                                                                                                           /note="Ac-D-Gln"
                                                                                         'label=OTHER
                                                                                                                                     label=OTHER
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AAR20585
ID AAR2
XX
AC AAR2
AC AAR2
DT 07-P
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DE Anta
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KW Anti
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      RESULT
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The peptide is modified at the N-terminal with a lauryl, palmitoy: or esp. an octanoyl gp. The Leu at position 7 may be absent. The C-terminal (Leu or His) is amidated. The peptides and derived salts can be used to treat small cell lung carcinoma, prostatic carcinoma, tumour tissue growth, peptide ulcers, cancer and associated conditions, and to effect antagonism of bombesin/gastrin releasing peptide. Dosage is 0.2-250 mg/kg daily in 1-4 doses, at
                                                                                                            Claim 7; Page 12; 14pp; English.
                                                                                                                                     New peptide bombesin-GRP antagonists - used as antitumour agents to treat e.g. leukaemia, small cell lung and prostatic carcinoma and to inhibit gastric acid secretion.
                                                                                                                                                                                               WPI;
                                                                                                                                                                                                                        Krstenansky JL;
                                                                                                                                                                                                                                                 (RICH ) MERRELL DOW PHARM INC
                                                                                                                                                                                                                                                                             26-JUL-1990;
                                                                                                                                                                                                                                                                                                                                29-JAN-1992.
                                                                                                                                                                                                                                                                                                                                                         EP468497-A.
                                                                                                                                                                                                                                                                                                                                                                                              Misc-difference
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                                                                                                                                                                                                                                                                                                    25-JUL-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                     Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              It is a potent bombesin antagonist. It may be used for the treatment of e.g. malignant disease, conditions associated with the over-prodn. of bombesin and conditions associated with failure of normal physiological control of the regulation of gastric acid secretion.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New Neuromedin C polypeptide derivs. are potent bombesin antagonist used for treating malignant disease and conditions associated with gastrin or gastric a
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| qwavahl 7
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85.7%;
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Pred. No.
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Best Local S
Matches 6
                               The peptides in this example are bombesin analogues. The peptides were tested in a competitive binding assay and a Phosphatidyl Inosit.. (PI)-turnover assay in mouse pancreas. None of the peptides demonstrated agonist activity but all inhibited PI-turnover (c.f. stimulation produced by 100nM GRP). Analogues of bombesin are potentially useful for growth therapy and the treatment of disestive disorders, e.g. for stimulating digestion, stimulating growth of tissue in the lung, pancreas and intestine, stimulating NK cell activity against tumour cells and stimulating growth of tumours to
                                                                                                                                                                            New bombesin peptide agonists and antagonists - stimulate inhibit digestion, increase susceptibility of tumours to chemotherapeutic agents, treat gastric ulcers and tumours
                                                                                                                                                                                                                                WPI; 1992-415707/50.
                       increase
                                                                                                                                                                                                                                                      Edwards
                                                                                                                                                                                                                                                                             (RICH ) MERRELL DOW PHARM INC
                                                                                                                                                                                                                                                                                                     23-MAY-1991;
                                                                                                                                                                                                                                                                                                                                                   26-NOV-1992
                                                                                                                                                                                                                                                                                                                                                                         W09220707-A
                                                                                                                                                                                                                                                                                                                                                                                                            Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                   Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      13-APR-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAR32998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAR32998 standard;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5-200 mg/dose.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Intracellular signal; inhibition; gastrointestinal tract;
litorin; Gastrin Releasing Peptide; GRP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             [D-Ala11]-bombesin(7-13)amide derivs.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ш
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity 6; Conser
                     susceptibility to chemotherapeutic agents.
                                                                                                                                                     Page 40; 64pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     7 AA;
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                                                                                                                                                                                                                                                     Fanger
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                                                                                                                                                                                                                                                                                                   91US-0704863.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /label= OTHER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      94.7%;
                                                                                                                                                                                                                                                                                                                                                                                                 "amidated"
                                                                                                                                                                                                                                                                                                                                                                                                                      "D-Ala"
                                                                                                                                                                                                                                                                                                                                                                                                                                           "N-alpha-acetyl-Gln, N-alpha-octyl-Gln, N-alpha-lauryl-Gln or N-alpha-palmityl-Gln"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  7 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 36; DB
Pred. No. 3.4e
0; Mismatches
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1;
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                                                                                                                                                                              etc
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Sequence

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RESULT
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Best Local Similarity
Thes 6; Conserv
 Query Match
Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                            24-JUL-1991;
26-JUL-1990;
21-JUL-1994;
23-MAY-1995;
23-FEB-1996;
                                                                                            The present sequence represents a bombesin/gastrin releasing peptide type inhibitor peptide. The peptide may be used as an antimitotic and antisecretory peptide. It can control growth of small cell lung and prostatic carcinomas, and it can also inhibit gastric secretions which are causative and symptomatic of peptic ulcers. Administration may be oral but is preferably subcutaneous, intravenous, intravenous or intraperitoneal, by depot injection, by implant preparation or by application to the mucous membranes (e.g. of the nose or bronchial
                                                                                                                                                                                                            Claim 5; Column 14; 9pp; English.
                                                                                                                                                                                                                                        æ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bombesin; gastrin releasing peptide; GRP; inhibitor; antagonist; small cell lung carcinoma; tumour; frog; antimitotic; antisecretory;
                                                                                                                                                                                                                                                                                                              Krstenansky JL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US5834433-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bombesin/gastrin releasing peptide type inhibitor peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    27-APR-1999
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                                                              Sequence
                                                                                                                                                                                                                                                                                      WPI; 1999-141255/12.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bombina bombina
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         peptic ulcer.
                                                                                                                                                                                                                                                                                                                                      (RICH ) MERRELL PHARM INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                        23-FEB-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                10-NOV-1998
                                                                                      tubes) by
                                                                                                                                                                                                                                    .g., small cell lung carcinoma or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 QWAVXHL 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4
                                                                                                                                                                                                                                    peptide antagonists of bombesin or gastrin releasing peptide - useful as antimitotic and antisecretory agents in treating, ., small cell lung carcinoma or peptic ulcers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                qwavahl 7
                                                                                      aerosol.
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  Conservative
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                                                                                                                                                                                                                                                                                                                                                                           91US-0735402.
90US-0558031.
94US-0278692.
95US-0447528.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             94.7%;
85.7%;
            94.78;
85.78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "amidated'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "optionally modified by octanoyl, lauroyl or
palmitoyl"
 Score 36; DB Pred. No. 3.4e. 0; Mismatches
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 0;
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3.4e+05;
            DB 20;
3.4e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 13;
 1;
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                       Length 7;
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 Indels
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AAR11241
ID AAR1
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AC AAR1
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DT 17-P
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DE Line
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AAP20294
ID AAP
                                                                                                                                 Query Match
Best Local Similarity
"~+~hes 6; Conserv:
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                                                                             RESULT
                                                                                                                                                                                                   The peptide may be preceded by a formyl, acetyl, propionyl, acr./tyl or benzoyl group at its C-terminal. The peptide may be used for reducing the body temp. of a mammal, as well as for inducing analgesia. It produces hypothermia when injected i.c., but not when given i.v. or s.c. See also AAP20291-3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       09-DEC-1992
       Linear litorin analogue (III).
                         17-MAY-1991
                                            AAR11241;
                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                          Claim
                                                                                                                                                                                                                                                                          Octa:peptide bombesin analogues - having hypothermic analgesic props.
                                                                                                                                                                                                                                                                                                                                                          03-OCT-1980;
                                                                                                                                                                                                                                                                                                                                                                          03-OCT-1980;
                                                                                                                                                                                                                                                                                                                                                                                                                                        Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bombesin; hypothermic; analgesic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAP20294;
                                                            AAR11241 standard;
                                                                                                                                                                                                                                                                                                     WPI; 1982-48049E/23
                                                                                                                                                                                                                                                                                                                      Marki WE,
                                                                                                                                                                                                                                                                                                                                                                                            25-MAY-1982.
                                                                                                                                                                                                                                                                                                                                                                                                             US4331661-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bombesin analog peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAP20294 standard;
                                                                                                                                                                                                                                                                                                                                        (SALK-) SALK INST BIOLOGICA.
                                                                                                               2 QWAVXHL 8
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                                                                                                       qwavahl 7
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                                                                                                                                                                                                                                                         8; Column 8; 5pp; English
                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                      Brown MR,
                                                                                                                                          Conservative
                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                     AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                          80US-0193621.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                               /label= D-Ala
                                                                                                                                                                                                                                                                                                                                                                                                                                                /label= D-Glu
                                                            Protein; 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         peptide;
                                                                                                                                                 94.7%;
85.7%;
                                                                                                                                                                                                                                                                                                    (48049E).
                                                                                                                                                                                                                                                                                                                      Rivier JEF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                          0;
                                                                                                                                                  Score 36;
Pred. No.
                                                            A
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                                                                                                                                           Mismatches
                                                                                                                                                    ω
                                                                                                                                                           DB 3;
                                                                                                                                                 .4e+05;
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RESULT
AAR11242
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          Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                  This peptide is a specifically claimed example of a generic formula. The C-terminal amino acid (Met) of the naturally occurring peptide has been converted to an amide and phe 8 has been replaced by beta-Leu. Gly 6 has also been replaced by D-Ala. The peptide is useful for treating benign or malignant tissue proliferation, artherosclerosis, gastrointestinal disorders and diabetes. They act as competitive inhibitors of natural peptides, since they bind to the cell receptors but have no biological
                                     diabetes.
                                                Bombesin;
                                                                      Linear litorin analogue (IV).
                                                                                                17-MAY-1991
                                                                                                                        AAR11242;
                                                                                                                                               AAR11242 standard; Protein; 8
                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                   See also AAR11239-242
                                                                                                                                                                                                                                                                                                                                                                      The analogue may also be of a naturally occurring peptide terminating at the C-terminus with a Met residue, such as 10 amino acid C-terminal region of mammalian GRP or amphil
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 18; Page 54; 58pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New linear peptide analogues of bombesin - modified to eliminate biological activity while retaining receptor affinity, for treating cancer, diabetes, etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1991-087241/12.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Coy DH,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (TULA ) ADMIN TULANE EDUCATIONAL. (BIOM-) BIOMEASURE INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21-AUG-1989;
30-MAR-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       17-AUG-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bombesin; litorin analogue; linear; receptor affinity; cancer; diabetes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 07-MAR-1991
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2 qwavahl 8
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                                                litorin
                                                                                                                                                                                                                                                                                                                           8 AA;
                                                                                                                                                                                                                                                             Conservative
                                                                                               (first entry)
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90US-0502438.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /label= D-p-chloro-phenylalanine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                            analogue; linear; receptor affinity; cancer;
                                                                                                                                                                                                                                                                         94.7%;
85.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Kim
                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                        Score 36; DB 12;
Pred. No. 3.4e+05;
                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                  Length 8;
                                                                                                                                                                                                                                                                                                                                                                        , such as the or amphibian
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ID XX AC XX 
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AAR29155
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local S
Matches 6
                         Modified-site
                                                                                                                                                                Synthetic
                                                                                                                                                                                                                Hepatoma; liver cancer;
                                                                                                                                                                                                                                                                    Bombesin analogue (5)
                                                                                                                                                                                                                                                                                                                             16-APR-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                    AAR29155 standard; peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   These peptides are specifically claimed examples of a generic formula. The C-terminal amino acid (Met) of the naturally occurring peptide has been converted to a methylester. The peptide is useful for treating benign or malignant tissue proliferation, artherosclerosis, gastrointestinal disorders and diabetes. They act as competitive inhibitors of natural peptides, since they bind to the cell receptors but have no biological
                                                                             Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                    AAR29155;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New linear peptide analogues of bombesin - modified to eliminate biological activity while retaining receptor affinity, for treating cancer, diabetes, etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    See also
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The analogue may also be of a naturally occurring peptide terminating at the C-terminus with a Met residue, such as the 10 amino acid C-terminal region of mammalian GRP or amphibian behavior
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 20+21; Page 54; 58pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1991-087241/12
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21-AUG-1989;
30-MAR-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (TULA ) ADMIN TULANE EDUCATIONAL. (BIOM-) BIOMEASURE INC.
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Modified-site
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       89US-0397169
90US-0502438
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/note= "NMe-D-Ala"
                                                   /note= "D-form residue"
                                                                                                       Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /label= N-methyl-D-Ala
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              94.7%;
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                                                                                                                                                                                                                antagonist
                                                                                                                                                                                                                                                                                                                                                                                                                                       8 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 36; DB 12;
Pred. No. 3.4e+05;
0; Mismatches 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 8;
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RESULT
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Best Local S
Matches 6
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                                                                                                                                                                                                                                                                                                                                                                                                      The peptide is an example of a highly generic formula. It is used in a medicament for treating hepatoma. The cpd. acts as antagonist to bombesin, which has been detected in a number of human cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Treatment of hepatoma - with carrier
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bodgen AE, Coy DH,
                                                                                                                                                                                                      Bombesin analogue (6).
                                                                                                                                                                                                                        16-APR-1993
                                                                                                                                                                                                                                         AAR29157;
                                                                                                                                                                                                                                                        AAR29157 standard; peptide; 8 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 14; Page 48; 54pp; English
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              11-MAY-1992;
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                                                                                                           Modified-site
                                                                                                                           Misc-difference
                                                                                                                                                                     Synthetic
                                                                                                                                                                                     Hepatoma; liver cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (BIOM-) BIOMEASURE INC. (TULA ) TULANE EDUCATIONAL FUND.
      (BIOM-) BIOMEASURE INC (TULA ) TULANE EDUCATION
                                 10-MAY-1991;
                                                11-MAY-1992;
                                                                  26-NOV-1992
                                                                                  W09220363-A
                                                                                                                                            Modified-site
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mes 6; Conserv
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                                                                                                                                                                                                                       (first entry)
       EDUCATIONAL FUND
                                91US-0698681.
                                                92WO-US03916
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                                                                                                          /note= "D-form residue"
8
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                                                                                                                           /note= "D-F5-Phe" 6
                                                                                                                                                   Location/Qualifiers
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                                                                                                   /note=
                                                                                                                                                                                                                                                                                                                                            94.7%;
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                                                                                                  "Leu-OMe"
                                                                                                                                                                                    antagonist.
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                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                    Score 36; DB 13;
Pred. No. 3.4e+05;
0; Mismatches 1
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RESULT
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Query Match
Best Local S
Matches 6
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                             New bombesin, gastrin releasing peptide or - antagonists for treating conditions such disorders, psoriasis and cancers
                                                                                                                                                                                                                                                                                                                                                                                  Bombesin; antagonist; chlorambucil; peptic ulcer; pancreatins; eating disorder; diabetes; acromegaly; enterocutaneous fistula; psoriasis; growth retardation; gastrointestinal motility disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The peptide is an example of a highly generic formula. It is used in a medicament for treating hepatoma. The cpd. acts as antagonist to bombesin, which has been detected in a number of human cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 15; Page 48; 54pp; English
        Claim 6; Page 34; 45pp; English
                                                                                                                                              17-DEC-1993;
18-JUN-1993;
                                                                                                                                                                                                                                                                      Modified-site
                                                                                                                                                                                                                                                                                                                 Key
Modified-site
                                                                                                                                                                                                                                                                                                                                                   Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                  Bombesin receptor antagonist.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        06-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAW64911;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAW64911 standard; peptide; 8 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 1992-415466/50
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                                                                           WPI; 1995-052004/07.
                                                                                                  Chandrasekhar B, Knight M, Takahashi K;
                                                                                                                                                                                15-JUN-1994;
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2 qwavahl 8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
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                                                                                                                                              93US-0168390
93US-0078062
                                                                                                                                                                                94WO-US06757
                                                                                                                       TECHNOLOGIES CORP
                                                                                                                                                                                                                                               /note= "The carboxy terminal is in the form \(\text{\chi}\)
ethyl ester"
                                                                                                                                                                                                                                                                               /note= "The amino terminal is acylated with acerbromoacetyl, chloroacetyl, [bis(2-chloroethere) L-phenylalanine or a chlorambucil group"
                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  94.78;
85.78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Kim SH,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           by admin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 36; DB 13;
Pred. No. 3.4e+05;
0; Mismatches 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Moreau
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            of admixed bombesin analogue
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                                         Neuromedin B or C a as gastrointestina
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 8;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The patent discloses (1) the peptide sequence of bombesin (BBN), is gastrin releasing peptide (GRP), Neuromedin B or Neuromedin C, the paptide sequence having a chlorambucil group attached to the amino terminal; (2) a BBN receptor antagonist of formula (2) a BBN receptor antagonist of formula (3) a BBN receptor antagonist of formula (4) a BBN receptor antagonist of formula (6) a BBN receptor antagonist of formula (7) a BBN receptor antagonist of formula (8) a BBN receptor antagonist of formula (8) a BBN receptor (8) a BBN receptor (8) antagonist of formula (8) a BBN receptor (8) antagonist of formula (8) a BBN receptor (8) a BBN receptor (8) antagonist (8) a BBN receptor (8) antagonist (8) a BBN receptor (8
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Best Local Similarity
Matches 6; Conserv
Bombesin receptor peptide ligands with irreversible effects agonists and antagonists both weak and strong
                                                                     WPI; 1990-067161/09
                                                                                                                                        de Castiglione R,
                                                                                                                                                                                                                                  28-MAR-1989;
21-JUL-1988;
                                                                                                                                                                                                                                                                                                     19-JUL-1989;
                                                                                                                                                                                                                                                                                                                                                   08-FEB-1990.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bombesin receptor; agonist; antagonist
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            30-MAR-1992
                                                                                                                         Molinari
                                                                                                                                                                                     (FARM ) FARMITALIA C ERBA SPA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               psoriasis, growth retardation, gastrointestinal motility disorders or
tumours. The terminal structures of the compounds protect them from
in vivo proteolysis and provide highly potent antagonist effects that
persist for extended periods of time upon administration.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    binding of BBN, GRP or a related peptide to cells capable of such
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2 qwavahl 8
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    They can be used for treating e.g. peptic ulcer, pancre
disorders, diabetes, acromegaly, enterocutaneous fistula,

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
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                                                                                                                                                                                                                                89GB-0006900.
88GB-0017379.
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/label=
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                                                                                                                                        Galantino M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              94.7%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "pMel= p-bis (2-chloroethyl) amino-L-phenylalanine"
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Pred.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           36;
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                                                                                                                                        Gozzini L,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 8;
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RESULT 12
AAR11522
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Query Match
Best Local Similarity 85.7
Matches 6; Conservative
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Best Local :
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15-SEP-1989;
21-NOV-1989;
                                                                                                                                                                   This is a peptide analogue of mammalian gastrin releasing peptide (GRP), neuromedin-B or -C, amphibian bombesin and litorin. It is an agonist of these cpds. and is used to treat smooth muscre proliferation and cancer of the prostate, breast or lung. Residue 6 (Ala) is D-alanine. See also AAR11519-21 and AAR11523-30.
                                                                                                                                                                                                                                                                                                                                                                                                               Treatment of non malignant proliferative disease and cancer - administration of natural peptide or fragment selected from gastin-releasing peptide, neuromedin, amphibian bombesin or itematical and approximately approximately approximately approximately and approximately approximate
                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                 Claim 22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 1991-117320/16.
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of the peptides.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bogden AE, Moreau J-P;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (BIOM-) BIOMEASURE INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      17-SEP-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO9104040-A
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Modified-site
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Example of peptide agonist of GRP, neuromedin, bombesin and literin.
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AAR14866;
                     AAR14866 standard;
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                                                                                                                                                                                                                                                                                                                                  Peptide agonists of litorin, gastrin releasing peptide neuromedin B or C or bombesin, for treating cancer, preventing smooth muscle proliferation and suppressing appetite and alcohol
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Key
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                                                     Synthetic
                                                                                                       tissue proliferation;
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                                                                                                                                                         Peptide analogue #8 of litorin, GRP, neuromedin or bombesin.
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